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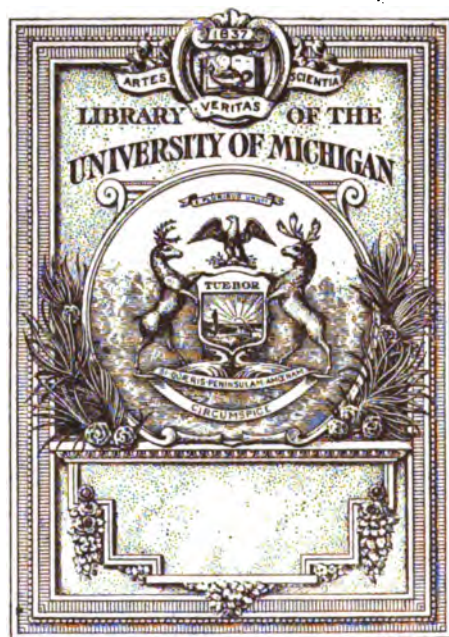
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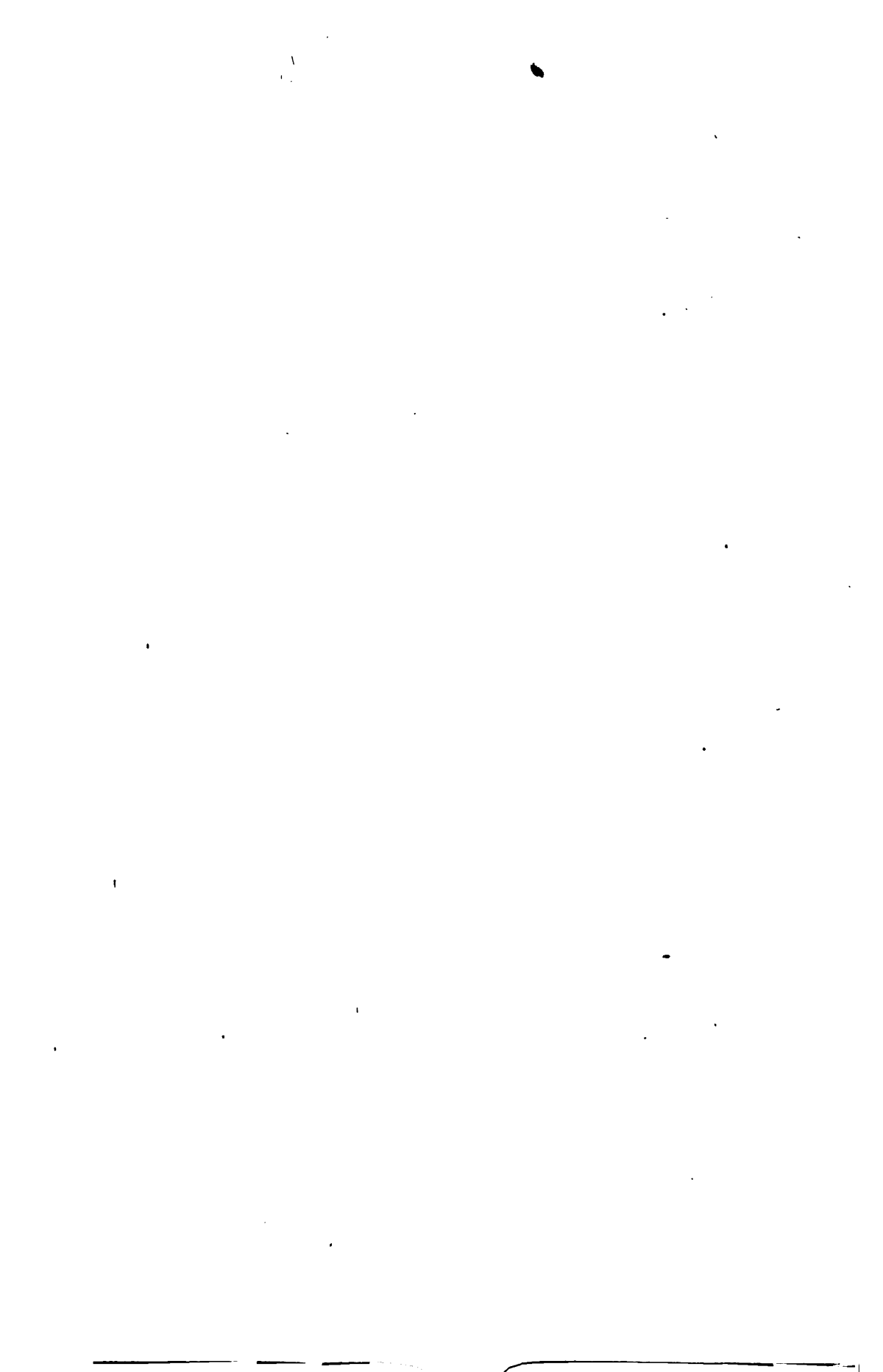
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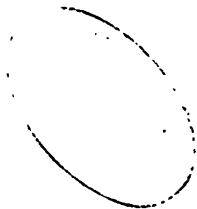


NEW
AMERICAN CYCLOPÆDIA.

VOL. X.
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THE NEW
AMERICAN CYCLOPÆDIA:

A



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CONTENTS OF VOLUME X.

PAGE	PAGE	PAGE
Jerusalem..... 1	Johnson, Chapman..... 25	Joseph, spouse of Mary..... 55
Jerusalem, Johann Friedrich Wilhelm..... 5	Johnson, Edward..... 26	Joseph I., Emperor of Germany..... 55
Jervis, Sir John..... 5	Johnson, Isaac..... 26	Joseph II., Emperor of Germany..... 55
Josi, Samuele..... 6	Johnson, Manuel John..... 26	Joseph Bonaparte, see Bonaparte.
Jessamine co..... 6	Johnson, Reverdy..... 26	Josephine..... 56
Jester, see Fool.	Johnson, Richard Mentor..... 26	Josephus, Flavius..... 57
Jesuits..... 6	Johnson, Samuel, D.D..... 27	Joshua..... 58
Jesuits' Bark, see Cinchona.	Johnson, Samuel, L.L.D..... 27	Josiah..... 58
Jesus Christ..... 13	Johnson, Walter Rogers..... 28	Josika, Miklós..... 58
Jet..... 13	Johnson, Sir William..... 24	Jost, Isaac Marcus..... 58
Jeter, Jeremiah B., D.D..... 13	Johnson, Sir John..... 25	Jotuns..... 59
Jetsam, see Flotsam.	Johnson, William..... 26	Jouffroy, Théodore Simon..... 59
Jew, the Wandering..... 14	Johnson, Joseph..... 26	Jourdan, Jean Baptiste..... 60
Jewel, John..... 14	Johnson, William Bullien, D.D..... 26	Journallam, see Newspapers.
Jews, see Hebrews.	Johnston co..... 27	Joussouf..... 60
Jews-Harp..... 14	Johnston, Albert Sidney..... 27	Joust, see Tournament.
Jhand..... 14	Johnston, Alexander Keith..... 27	Jouy, Victor Joseph Etienne de..... 61
Jicari..... 15	Johnston, Arthur..... 27	Jovellanos, Gaspar Melchior de..... 61
Jiddah..... 15	Johnston, Gabriel..... 27	Joviana, Flavius Claudius..... 61
Jiboom..... 15	Johnston, Samuel..... 28	Jovius, Paulus, see GJovio.
Jiquitico, Bay of..... 15	Johnston, George..... 28	Juan Fernandez..... 62
Jiquilite..... 15	Johnston, James F. W..... 28	Juanes, Juan Bautista..... 62
Jo Davians co..... 16	Joint Stock Company..... 28	Juarez, Benito..... 62
Joab..... 16	Joint Tenants..... 28	Juarez, Domingo..... 62
Joan, Pope..... 16	Joinville, Jean..... 29	Juba, King of Numidia..... 63
Joan of Arc, see Arc, Joan of.	Joinville, Prince de..... 29	Juba, King of Mauritania..... 63
Joannes, Vicente, see Juanes.	Jokjakarta..... 40	Jubilee..... 63
Joannes..... 16	Joliba, see Niger.	Judas..... 64
Job, Book of..... 16	Joliet, Louis..... 40	Judas Iscariot..... 64
Jochmus, Albrecht..... 17	Jomard, Edme François..... 41	Judas Macabean, see Hebrews.
Joel..... 17	Jomell, Nicolo..... 41	Judd, Sylvester..... 64
Jogues, Isaac..... 17	Jomint, Henri..... 43	Jude, Saint..... 65
Johanna Island, see Amsoan.	Jomaburg..... 43	Judges of Israel, see Hebrews.
Johannes Secundus..... 17	Jonah..... 43	Judges, Book of..... 65
Johannisberg..... 18	Jonas, Justus..... 43	Judgment..... 65
Johannot, Charles Henri Alfred..... 18	Jones co., N. C..... 43	Judith..... 67
Johannot, Tony..... 18	Jones co., N. C..... 43	Judson, Adoniram..... 67
John, King of England..... 18	Jones co., Miss..... 43	Judson, Ann Hameltine..... 69
John II., King of France..... 20	Jones co., Iowa..... 43	Judson, Sarah Hall (Boardman)..... 69
John II. Casimir, King of Poland..... 20	Jones, Anson..... 43	Judson, Emily Chubbuck..... 70
John III. Sobieski, King of Poland..... 21	Jones, Inigo..... 44	Juggernaut..... 70
John, King of Saxony..... 21	Jones, Jacob..... 44	Juggler..... 71
John, Archduke of Austria..... 22	Jones, James Chamberlain..... 45	Jugurtha..... 72
John, Christians of Saint, see Christians of St. John.	Jones, John..... 45	Julian, Flavius Claudius Julianus..... 73
John, Knights of Saint, see Saint John, Knights of.	Jones, John Paul..... 46	Jülich..... 74
John, Knights of..... 22	Jones, Noble Wimberly..... 46	Julien, Stanislas Aignan..... 74
John of Gaunt..... 22	Jones, Owen..... 46	Julius, Popes..... 75
John of Leyden, see Anabaptist.	Jones, Thomas Bymer..... 46	Julius, Saint..... 75
John of Salisbury..... 22	Jones, William..... 46	Julius, Giulio della Rovere..... 75
John the Baptist..... 22	Jones, Sir William..... 49	Julius, Gian Maria del Monte..... 75
John the Evangelist..... 23	Jones, William Alfred..... 50	Julius, Nikolaus Heinrich..... 76
John Scotus, see Erigena.	Jonson, Benjamin..... 50	Julien, Louis George..... 76
Johnson co., Tex..... 24	Jonsson, Finnur..... 52	July..... 76
Johnson co., Ark..... 24	Joppe, see Jaffa.	Junna..... 76
Johnson co., Tenn..... 24	Jordana, Jacob..... 53	June..... 76
Johnson co., Ky..... 24	Jordan..... 53	Jung Bahadoor Coomaranagoe..... 77
Johnson co., Ind..... 24	Jordan, Camille..... 53	Jung-Stilling, Johann Heinrich Jung..... 77
Johnson co., Ill..... 24	Jordan, Dorothy..... 53	Jungermannia..... 77
Johnson co., Mo..... 24	Jorgenson, Jorgen..... 53	Jungfrau..... 78
Johnson co., Iowa..... 24	Jordanes..... 54	Jungfrau, Franz Wilhelm..... 78
Johnson, Alexander Bryan..... 24	Jortin, John..... 54	Jungmann, Josef Jakob..... 78
Johnson, Andrew..... 25	Jorullo..... 54	Junists co..... 78
	Joseph, son of Jacob..... 54	Junists, a river..... 78

CONTENTS.

iii

	PAGE
King William co.	169
Kingsaber	169
Kingslake, Alexander William	169
Kingslake, John Alexander	169
Kings co., N. Y.	170
King's co., N. B.	170
King's co., N. B.	170
King's co., P. E. Island	170
King's co., Ireland	170
Kings Books of	170
King's Mountain	170
Kingsborough, Edward (King), Viscount	171
Kingsley, Calvin, D.D.	171
Kingsley, Charles	173
Kingsley, Henry	173
Kingsley, James Luce, LL.D.	173
Kingston, N. Y.	173
Kingston, C. W.	173
Kingston, Jamaica	174
Kingson, Elizabeth Chudleigh, Duchess of	174
Kingson-upon-Thames	175
Kingstown	175
Kink Acid	175
Kinkel, Johann Gottfried	176
Kinney co.	176
Kino, see Gum	
Kinross co.	176
Kip, William Ingraham, D.D.	176
Kippis, Andrew, D.D.	176
Kirby, William	176
Kircher, Athanasius	177
Kirchess, Steppes of the	177
Kirk, Edward Norris, D.D.	177
Kirkbride, Thomas S., M.D.	178
Kirkcaldy	178
Kirkcudbright co.	178
Kirkland, Caroline Matilda	178
Kirkland, John Thornton, D.D., LL.D.	179
Kirschwasser	179
Kirwan, Richard	179
Kisfaludy, Károly	179
Kisfaludy, Sándor	179
Kishenev	180
Kiss, August	180
Kisseloff, Nicola	180
Kisseloff, Pavi	180
Kissineg	180
Kistnah	180
Kit-Cat Club	180
Kitchiner, William	181
Kite	181
Kite, a bird	181
Kittanning	182
Kittawake, see Gull	
Kitto, John, D.D.	182
Kiwi-Kiwi	182
Klagenfurth	182
Klamath co.	182
Klamath, a river	182
Klapka, György	182
Klaproth, Martin Heinrich	185
Klaproth, Heinrich Julius von	185
Klausenburg	185
Klausenthal, see Csanthal	
Kléber, Jean Baptiste	185
Kleist, Ewald Christian von	186
Kleist, Heinrich von	186
Klenze, Leo von	186
Klicpers, Wenceslaw	187
Klinger, Friedrich Maximilian von	187
Klippringer	187
Klopstock, Friedrich Gottlieb	187
Klozety, György	188
Knaapp, Albert	188
Knaapp, Georg Christian	188
Knaapp, Samuel Lorenzo	189
Knebel, Sir Godfrey	189
Katzeniewicz, Karol	189
Katzenia, Franciszek Dyonisy	189
Knight, Charles	190
Knight, Richard Payne	190
Knight, Thomas Andrew	191
Knightood, see Chivairy	
Knights of the Shire	191
Knipperdolling, Bernhard	191
Knoblecher, Ignaz	191
Knot	192
Knout	192

	PAGE
Knowles, James Davis	192
Knowles, James Sheridan	192
Knorr co., Tex.	192
Knorr co., Tenn.	192
Knorr co., Ky.	192
Knorr co., Ohio	192
Knorr co., Ind.	192
Knorr co., Ill.	192
Knorr co., Mo.	194
Knorr, Henry	194
Knorr, John	196
Knorr, Viceimus	196
Knorrville	196
Knyphausen, Baron	196
Koala	196
Koch, Karl Heinrich Emanuel	199
Kochanowski, Jan	199
Kock, Charles Paul de	199
Kockkoek, Bernard Cornelius	199
Koeppen, Adolphus Louis	199
Koeppen, Carl Friedrich	199
Kohl, Johann Georg	200
Kohl, Ida	200
Köhne, Frederic	200
Kölsey, Ferenz	200
Kollar, Jan	200
Koller, Franz	200
Kölliker, Albrecht	200
Kollontaj, Hugo	201
Kolowrat, Family of	201
Kolowrat, Franz Anton	201
Kong	201
Konleh	202
König, Friedrich	202
Königsberg	202
Königsmark, Philip Christopher	202
Königsmark, Marie Aurora	202
Koodoo, see Antelope	
Koom	202
Koor	202
Koordistan	202
Koorile Islands	204
Koorak	205
Küppen, Friedrich	205
Koran	205
Kordofan	207
Körner, Karl Theodor	207
Kosciusko co.	207
Kosciusko, Mount, see Australia	
Kosciusko, Tadeusz	207
Koegarten, Johann Gottfried Ludwig	209
Koesuth co.	209
Koesuth, Lajos (Louis)	209
Kostroma	214
Kotah	214
Köthen, see Anhalt	
Kotzebue, August Friedrich Ferdinand von	214
Kotzebue, Otto von	215
Kotzebue, Moritz	216
Kotzebue, Wilhelm	216
Kouli Khan, see Nadir Shah	
Koumas, Constantine Michel	216
Koumias	216
Kozloff, Ivan	216
Kozman, Kajetan	216
Kraft, Charles	216
Kraken	216
Kranach, Lucas, see Cranach	
Krasicki, Ignacy	217
Krasinski, Valerian	217
Kraszewski, Josef Ignacy	217
Krause, Karl Christian Friedrich	217
Kremlin	217
Kremlitz	218
Krishna, see Kistnah	
Krüden, Juliane de Wistinghoff	218
Krug, Wilhelm Traugott	219
Krummacher, Friedrich Adolf	219
Krummacher, Gottfried Daniel	219
Krummacher, Friedrich Wilhelm	219
Krusenstern, Adam Jean	219
Kryloff, Ivan	220
Kahastriya, see Brahma	
Kuen-Lun	220
Kuzler, Franz Theodor	220
Kuhn, Gustav	221
Kumason	221
Kurashap	221
Ktansacht	221

	PAGE
Kustendji	221
Kutah	222
Kutusoff, Mihail	222
Kuyt, Albert, see Cuyt	

L

	PAGE
L.	222
Laaland	222
Labadie, Jean de	224
Labarre, Chevalier de, see Barre	
Labarum	224
Labat, Jean Baptiste	224
Labdanum, see Ladanum	
La Billardiere, Jacques Julien Houton de	224
Lablache, Luigi	224
Labor, in physiology, see Birth	
Laboratory	225
Laborde, Jean Benjamin de	225
Laborde, Jean Joseph	225
Laborde, Alexandre Louis Joseph	225
Laborda, Léon Emmanuel Simon Joseph	226
La Borde, Maximilian	226
Labouchere, Henry	226
Laboulaye, Edouard René Leffebvre	227
Labourdonnaie, Bertrand François Mahé de	227
Labrador	227
Labradorita, see Feldspar	
La Bruyere, Jean de	228
Labuan	228
Ladarnum	229
Labyrinth	229
Labyrinthodon	229
Lac	229
La Caille, Nicolas Louis de	229
Lacandones	229
Laccadive Isles	231
Lace	231
Lacedemon, see Sparta	
Lacépède, Bernard Germain Étienne de La Ville	232
La Cerda	234
Lacerda, Francisco José de	234
La Chaise d'Aix, François de	234
Laches	235
Lachmann, Karl	235
Lachryme Christi	235
Lachrymatories	235
Lackawanna	235
La Cledé	236
Laclos, Pierre Ambroise François Choderlos de	236
La Condamine, Charles Marie de	236
Laconia	236
Lacerdaire, Jean Baptiste Henri	236
Lacquer	236
Lacretelle, Pierre Louis	238
Lacretelle, Jean Charles Dominique de	238
Lacroix, Paul	239
Lacroix, Jules	239
Lacroix, Silvestre François	239
La Crosse co.	239
Lactantius, Lucius Caelius Firmianus	239
Lactic Acid	239
Lactometer, see Galactometer	
Ladakh	240
Ladanum	240
Ladd, William	240
Ladino	241
Ladislav II.	241
Ladislav III.	241
Ladoga	241
Ladrone Islands	241
Lady	241
Lady-Bird	241
Laelus, Calus	242
Laennec, René Théodore Hyacinthe	242
Laer, Peter de, see Bambocci	
Lafarge, Marie Cypelle	242
Lafayette co., Miss.	242
Lafayette co., La.	242
Lafayette co., Ark.	242
Lafayette co., Mo.	242

CONTENTS.

V

PAGE	PAGE	PAGE			
Lawrence co., Ill.....	367	Leach, John.....	439	Leon co., Fla.	462
Lawrence co., Mo.	367	Leads co.....	439	Leon co., Tex.	460
Lawrence, Mass.....	367	Leeds.....	439	Leon, Nicaragua.....	460
Lawrence, Kansas.....	368	Leemana, Conradus.....	431	Leon, Spain.....	460
Lawrence, Abbott.....	368	Lees, Frederic Richard.....	431	Leon, Ponce de, see Ponce de Leon.	
Lawrence, Amos.....	368	Leester, Isaac.....	431	Leonardo da Pisa, see Bonacci.	
Lawrence, Sir Henry Montgomery.....	368	Leeuwarden.....	431	Leonardo da Vinci, see Vinci.	
Lawrence, Sir John Laird Mair.....	370	Leeuwenhoeck, Antonius van.....	431	Leonhard, Karl Oskar von.....	461
Lawrence, James.....	370	Leeward, see Lee.		Leontidas.....	461
Lawrence, Sir Thomas.....	373	Leeward Islands.....	433	Leontine Verrae.....	461
Lawrence, Saint.....	373	Leffebvre, François Joseph.....	433	Leopard.....	461
Lawrenceburg.....	373	Le Fort, François.....	433	Leopardi, Giacomo.....	463
Lawson, Henry.....	373	Legacy.....	433	Leopold I., Belgium.....	463
Lawson, John.....	373	Legaré, Hugh Swinton.....	434	Leopold I., Germany.....	463
Lawyer, see Advocate, Attorney, and Counsellor.		Legaré (Bullen), Mary Swinton.....	436	Leopold II., Germany.....	463
Layard, Austen Henry.....	373	Legate.....	436	Leopold II., Tuscany.....	463
Laybach.....	374	Legende, Adrien Marie.....	437	Leosthenes.....	463
Layne, Jacob.....	374	Leggett, William.....	437	Le Page, Marie Anne, see Boocage.	
Lazarists, see Priests of the Mission.		Legh, Thomas.....	437	Le Panto.....	464
Lazulite, see Lapis Lazuli.		Leghorn.....	437	Lepaterique Mountains.....	464
Lazzari, Donato, see Bramante d'Urbino.		Lehigh co.....	438	L'Epée, O. M., abbé de, see Epée.	
Lazzaroni.....	374	Lehigh, a river.....	438	Lepidoptera, see Butterfly, and Moth.	
Lee, Isaac, LL.D.....	375	Leibnitz, Gottfried Wilhelm.....	438	Lepidodren.....	464
Lee, Thomas Gibson.....	375	Leicester.....	439	Lepidostena, see Gar Fish.	
Leach, William Elford.....	375	Leicester, Earl of, see Dudley, Robert.		Lepidus, Family of.....	466
Lead.....	376	Leicester of Holkham, Thomas Wil-	439	Lepidus, M. (Emilius) (three).....	466
Leaf.....	382	Ham Coke, Earl of.....	439	Lepidus, M. (Emilius) Porcius.....	466
Leaf.....	382	Leicestershire.....	439	Lepra.....	466
League.....	385	Liddy, Joseph.....	439	Lepatus, Karl Richard.....	463
Leake co.....	385	Leigh, Benjamin Watkins.....	439	Lerida.....	463
Leake, Sir John.....	385	Leighton, Robert.....	439	Lermontoff, Mikhail.....	469
Leake, William Martin.....	385	Leiningen, Karl, Prince of.....	439	Lero.....	469
Leamington.....	385	Leiningen, Ernst, Prince of.....	439	Leroux, Pierre.....	469
Leander, see Hero.		Leiningen, Karl, Count.....	439	Leroy d'Etioles, Jean Jacques	
Leap Year, see Calendar.		Leinster.....	439	Joseph.....	470
Leas, Tobias.....	385	Leipale.....	444	Leroy de Saint-Arnaud, Arnaud	
Leachus.....	386	Leisler, Jacob.....	445	Jacques.....	471
Lease.....	386	Leith.....	446	Le Sage, Alain René.....	471
Leather.....	387	Leitrim.....	446	Lesbos, see Mitylene.	
Leavenworth.....	403	Lekain, Henri Louis Cain.....	447	Lescaubault, Dr.....	473
Lebanon co.....	403	Leland, Charles Godfrey.....	447	Lesley, John.....	473
Lebanon, Penn.....	403	Leland, John, D.D.....	447	Leslie, Charles Robert.....	473
Lebanon, Ky.....	403	Leland, John.....	447	Leslie, Elias.....	473
Lebanon, Tenn.....	403	Leleges.....	447	Leslie, John.....	473
Lebanon, Ohio.....	403	Lelewal, Joachim.....	448	Leslie, Charles.....	474
Lebanon, Ill.....	404	Lely, Sir Peter.....	448	Leslie, Sir John.....	474
Lebanon, Mount.....	404	Lemaitre, Nicolas Elol.....	448	Lespinasse, Julie Jeanne Mléonore	
Le Bas, Philippe.....	404	Lemaitre, Frédéric.....	449	Lespepe, Ferdinand de.....	475
Le Brun, Charles.....	404	Leman, Lac, see Geneva, Lake of.		Lesing, Gotthold Ephraim.....	475
Lebrun, Charles François.....	404	Lemberg.....	449	Lesing, Karl Friedrich.....	476
Lebrun, Pierre Antoine.....	405	Le Michaud, see Arpon, Jean Claude		Lester, Charles Edwards.....	477
Lebrun, Ponce Denis Ecouchard.....	405	Méonore d'.....	449	Letocq, Jean Hermann.....	477
Leclerc, Joseph Victor.....	405	Leumung.....	449	L'Estrange, Sir Roger.....	478
Leecompton.....	405	Lemnos.....	450	Le Sueur co.....	478
Le Conte, John.....	405	Lemolne d'Iberville, see Iberville.		Le Sueur, Eustache.....	478
Le Conte, John L., M.D.....	406	Lemon.....	450	Le Sueur, Jean François.....	478
Le Conte, John, M.D.....	406	Lemon, Mark.....	451	Leszczynski, see Stanislas Lesz-	
Le Conte, Joseph, M.D.....	406	Le Monnier, Pierre Charles.....	451	cynski.....	
Leda.....	406	Lempa.....	451	Letcher co.....	478
Ledebour, Karl Friedrich von.....	407	Lempriere, John, D.D.....	451	Letho.....	478
Ledru-Rollin, Alexandre Auguste.....	407	Lemur.....	451	Leto, see Latona.	
Ledyard, John.....	408	Lemures.....	452	Letronne, Jean Antoine.....	478
Ledyard, William.....	409	Lena.....	452	Letter of Marque, see Privateer.	
Lee.....	410	Lenapes, see Delaware.		Lettres de Cachet, see Cachet.	
Lee co., Va.....	410	Lenawee co.....	452	Lettuce.....	479
Lee co., Ga.....	410	Lenca.....	452	Lencadia, see Santa Maura.	
Lee co., Ill.....	410	L'Enclos, Ninon de.....	452	Leuchtenberg, Duke of, see Beau-	
Lee co., Iowa.....	410	Lennep, Jan van.....	452	harnais, Eugene de.....	
Lee, Family of.....	410	Lennox co.....	452	Leucippus.....	479
Lee, Richard Henry.....	410	Lennox, see Dumbartonshire.		Leucothes, see Ino.	
Lee, Francis Lightfoot.....	415	Lennox, Charlotte.....	454	Leuctra.....	479
Lee, Arthur.....	416	Lenoir co.....	454	Leuret, François.....	479
Lee, Alfred.....	430	Lenormand, Marie Anne Adelaide.....	454	Leutze, Emanuel.....	479
Lee, Ann.....	430	Lenox.....	454	Le Vaillant, François.....	480
Lee, Charles.....	430	Lens.....	454	Levant.....	480
Lee, Eliza Buckminster.....	434	Lent.....	455	Leves.....	480
Lee, Ezra.....	434	Lentil.....	456	Level.....	480
Lee, Hannah F. (Sawyer).....	434	Lentulus.....	456	Lever, see Mechanica.	
Lee, Henry.....	434	Leo, Pope.....	456	Lever, Charles James.....	481
Lee, Jesse.....	437	Leo I., Saint.....	456	Leverett, Frederic Perceval.....	481
Lee, Leroy Madison, D.D.....	437	Leo X.....	456	Leverett, Sir John.....	481
Lee, Luther, D.D.....	437	Leo XII.....	456	Leverett, John.....	481
Lee, Mary E.....	437	Leo I., Emperor.....	458	Leverrier, Urbain Jean Joseph.....	481
Lee, Nathaniel.....	437	Leo III., Emperor.....	458	Le Vert, Octavia Walton.....	482
Lee, Mrs. R. Bowdich.....	437	Leo V., Emperor.....	459	Levi.....	483
Lee, Samuel.....	438	Leo VI., Emperor.....	459	Leviathan.....	483
Lee, Samuel, D.D.....	438	Leo, Heinrich.....	459	Levites.....	483
Lee, Sophia.....	438	Leo Africanus, see Africanus.		Leviticus.....	483
Lee, Harriet.....	438	Leo Allatius, see Allatius.		Levy co.....	483
Lee, Thomas.....	438	Leoben.....	460	Lewald, Johann Karl August.....	483
Leech.....	439	Leochares.....	460	Lewald, Fanny.....	483

PAGE		PAGE		PAGE	
Lewis, George Henry.....	484	Lignum Vita, see Gualacum.			
Lewis.....	484	Ligny.....	589	Litharge, see Lead.	
Lewis co., N. Y.....	484	Lignori, Alfonso Maria de.....	590	Lithgow, William.....	588
Lewis co., Va.....	484	Liguria.....	590	Lithia.....	589
Lewis co., Tenn.....	484	Lilas.....	590	Lithography.....	589
Lewis co., Ky.....	484	Lilburne, John.....	581	Lithotomy, see Stone.	
Lewis co., Mo.....	484	Lille.....	581	Lithotripsy, see Stone.	
Lewis co., Wash. Ter.....	485	Lillo, George.....	589	Lithuanian.....	578
Lewis River.....	485	Lilly, John.....	582	Lithuanian Language.....	578
Lewis, Family of.....	485	Lilly, William.....	582	Litmus.....	578
Lewis, Andrew.....	485	Lily.....	583	Litre.....	578
Lewis, Thomas.....	485	Lily, William.....	584	Litta, Pompee.....	578
Lewis, William.....	485	Lilybaum, see Marsala.		Little Falls.....	578
Lewis, Charles.....	485	Lima, N. Y.....	585	Little Book.....	578
Lewis, Dixon Hall.....	485	Lima, Peru.....	585	Littleton, Sir Thomas.....	574
Lewis, Ella, L.L.D.....	486	Limbo.....	586	Littoral.....	574
Lewis, Enoch.....	486	Limburg, Belgium.....	586	Littre, Maximilien Paul Emile.....	574
Lewis, Estelle Anna.....	486	Limburg, Holland.....	586	Littrow, Joseph Johann von.....	575
Lewis, Francis.....	486	Lime.....	587	Littrow, Karl Ludwig von.....	575
Lewis, Sir George Cornwall.....	487	Lime, a fruit.....	589	Liturgy.....	575
Lewis, John Frederic.....	487	Lime Tree, see Bass or Bark Wood.		Livadia.....	576
Lewis, Matthew Gregory.....	487	Limerick.....	540	Liver.....	576
Lewis, Marlwether.....	487	Limestone.....	540	Livermore, Abiel Abbot.....	577
Lewis, Morgan.....	488	Limestone co., Ala.....	540	Liverpool.....	577
Lewis, Samuel.....	488	Limestone co., Tex.....	540	Liverpool, first Earl of.....	580
Lewis, Taylor, L.L.D.....	489	Limitation, Statutes of.....	541	Liverpool, second Earl of.....	580
Lewisburg.....	489	Limoges.....	543	Liverwort.....	581
Lewiston, Me.....	489	Limacre, Thomas.....	544	Livery.....	582
Lewiston, N. Y.....	489	Lincoln co., Me.....	544	Livery of Seisin.....	582
Lewistown.....	489	Lincoln co., N. C.....	544	Livia Drusilla.....	583
Lewschin, Alexei.....	489	Lincoln co., Ga.....	544	Livingston co., N. Y.....	583
Lexington dist.....	489	Lincoln co., Tenn.....	544	Livingston parish, La.....	583
Lexington, Mass.....	489	Lincoln co., Ky.....	544	Livingston co., Ky.....	583
Lexington, Va.....	491	Lincoln co., Mo.....	544	Livingston co., Mich.....	583
Lexington, Ky.....	491	Lincoln.....	544	Livingston co., Ill.....	583
Lexington, Mo.....	491	Lincoln, Abraham.....	545	Livingston co., Mo.....	583
Leyden.....	491	Lincoln, Benjamin.....	546	Livingston, Family of.....	583
Leyden, John of, see Anabaptist.		Lincoln, John Larkin, L.L.D.....	547	Livingston, Philip.....	583
Leyden, John.....	492	Lincoln, Levi.....	547	Livingston, William, L.L.D.....	584
Leyden, Lucas van.....	492	Lincoln, Levi, L.L.D.....	547	Livingston, Brockholst, L.L.D.....	584
Lha-Sa, see Lassa.		Lincoln, Enoch.....	548	Livingston, Robert E.....	584
L'Hôpital, Michel de.....	493	Lincolshire.....	548	Livingston, Edward.....	584
Lias.....	493	Lind (Goldschmidt), Jenny.....	548	Livingston, John H., D.D.....	585
Libanus.....	493	Linde, Samuel Gottlieb.....	549	Livingstone, David.....	585
Libanus, Mount, see Lebanon.		Linden, see Bass or Bark Wood.		Livonia.....	587
Libel.....	493	Lindensau, Bernhard August von.....	549	Livre, see Franc.	
Liberia.....	493	Lindley, John.....	550	Livy (Livius Andronicus), see An-	
Liberty co., Ga.....	493	Lindpaintner, Peter Joseph von.....	550	droneus, Livius.....	587
Liberty co., Tex.....	493	Lindsay, Alexander William Craw-		Livy (Titus Livius).....	587
Library.....	493	ford.....	550	Lizard.....	588
Libration, see Moon.		Lindsay, Sir David.....	550	Liama.....	590
Libretto.....	500	Lindsey, Theophilus.....	551	Llorente, Don Juan Antonio.....	591
Libri-Carrucci della Sommala, Guil-		Lindsley, Philip, D.D.....	551	Lloyd, Henry.....	592
laume Brutus Idie Timoléon.....	500	Linen.....	551	Lloyd's.....	592
Liburnia.....	500	Ling.....	551	Loach.....	593
Libys.....	500	Ling, Peter Henrik.....	554	Loadstone, see Iron.	
Libyan Desert.....	500	Lingard, John, D.D.....	555	Loan.....	593
Libyan Sea.....	501	Linley, Thomas.....	555	Loando, St. Paul de, see St. Paul de	
Lica, see Epizoa.		Linley, William.....	555	Loando.....	
License.....	501	Linlithgowshire.....	555	Loango.....	594
Lichens.....	502	Linn co., Mo.....	556	Loban, Georges Mouton.....	595
Lichfield.....	502	Linn co., Iowa.....	556	Lobeins.....	595
Lichnowsky, Felix.....	502	Linn co., Oregon.....	556	Lobel, Matthew.....	595
Lichtenberg, Georg Christoph.....	502	Linn, John Blair.....	556	Lobelia.....	595
Lichtenstein, Martin Heinrich Karl.....	502	Linn, Lewis Fields.....	556	Lobo, Jeronimo.....	596
Licking co.....	502	Linné (Linnaeus), Carl von.....	556	Lobos Islands.....	597
Licking, rivers.....	502	Linné.....	559	Lobster.....	597
Lictors.....	507	Linné.....	559	Lock.....	598
Lieber, Francis.....	507	Linné.....	559	Lock, Matthew.....	601
Lieber, Oscar Montgomery.....	508	Linné.....	559	Locke, John.....	601
Liebhart, Joachim, see Camerarius.		Linné.....	559	Locked Jaw, see Tetanus.	
Liebig, Justus von.....	508	Linné.....	559	Lockhart, John Gibson.....	604
Liechtenstein.....	509	Linné.....	559	Lockport.....	605
Liechtenstein, Johann Joseph.....	509	Linné.....	559	Locomotive Engine, see Steam	
Liechtenstein, Alois Joseph.....	509	Linné.....	559	Carriage.....	
Liechtenstein, Johann Franz.....	509	Linné.....	559	Locri.....	605
Liège.....	509	Linné.....	559	Locust, an insect.....	606
Liegnitz.....	510	Linné.....	559	Locust, a tree.....	607
Lien.....	511	Linné.....	559	Lodge, Thomas.....	608
Lieutenant.....	512	Linné.....	559	Lodi.....	608
Lieven, Dorothea.....	512	Linné.....	559	Lodomeria.....	608
Life Insurance, see Insurance.		Linné.....	559	Lofoden Islands.....	608
Life Preserver.....	514	Linné.....	559	Loftus, William Kennett.....	608
Light.....	514	Linné.....	559	Log.....	609
Light, Aberration of, see Aberration.		Linné.....	559	Logan co., Va.....	609
Light, Zodiacal, see Zodiacal Light.		Linné.....	559	Logan co., Ky.....	609
Lightfoot, John.....	513	Linné.....	559	Logan co., Ohio.....	609
Lighthouse.....	519	Linné.....	559	Logan co., Ill.....	609
Lightning.....	526	Linné.....	559	Logan.....	610
Ligne, Charles Joseph.....	529	Linné.....	559	Logan, James.....	610
Ligne, Eugene Lamoral.....	529	Linné.....	559	Logan, George.....	610
Lignite, see Brown Coal.		Linné.....	559	Logan, John.....	611

CONTENTS.

vii

	PAGE		PAGE		PAGE
Logan, Sir William Edmond.....	611	Louis IX, France.....	669	Ludlow, Edmund.....	718
Logansport.....	611	Louis XI, France.....	670	Ludolphus, Job.....	719
Logarithms.....	611	Louis XII, France.....	679	Ludvig, János.....	719
Logic.....	618	Louis XIII, France.....	679	Ludwig of Bavaria, see Louis.	
Logwood.....	616	Louis XIV, France.....	678	Luigi, Andrea di.....	719
Loir.....	617	Louis XV, France.....	678	Luini, Bernardino.....	719
Loir-et-Cher.....	617	Louis XVI, France.....	680	Luke, Saint.....	719
Loire, a department.....	617	Louis XVII, France.....	688	Lully, Jean Baptiste.....	720
Loire, a river.....	617	Louis XVIII, France.....	688	Lully, Raymond.....	721
Loire, Haute, see Haute-Loire.		Louis I, Bavaria.....	684	Lumbago, see Rheumatism.	
Loire-Inférieure.....	617	Louis IV, Germany.....	684	Lump Fish.....	722
Loiret.....	618	Louis, Pierre Charles Alexandre.....	685	Lumpkin co.....	722
Loja.....	618	Louis d'Or.....	685	Lumpkin, Wilson.....	722
Lokeian.....	618	Louis Napoleon, see Bonaparte.		Lumpkin, Joseph Henry.....	722
Lois Montes.....	618	Louis Philippe.....	685	Lunacy.....	722
Lollards.....	619	Louis co., Va.....	688	Lunar Caustic, see Nitrate of Silver.	
Lolli, Antonio.....	619	Louis co., Iowa.....	688	Lund.....	726
Lomax, John Tayloe, LL.D.....	619	Louis, Queen of Prussia.....	688	Lundy, Benjamin.....	726
Lombard, Peter.....	619	Louisburg.....	689	Lundy's Lane, Battle of.....	727
Lombardy.....	620	Louisiana.....	690	Lüneburg.....	728
Loménie, Louis Léonard de.....	622	Louisville.....	694	Lunenburg co.....	728
Loménie de Brienne, see Brienne.		Louse, see Episoa.		Lunéville.....	728
Lomond, Loch.....	622	Louth co.....	695	Lungs.....	729
Lomonosoff, Mikhail.....	622	Louvain.....	695	Lunt, George.....	729
London, C. W.....	622	Louvet de Couvray, Jean Baptiste.....	695	Lupercalia.....	729
London, Eng.....	622	Louviers.....	696	Lupine.....	729
Londonderry.....	622	Louvois, Marquis de.....	696	Lusatia.....	729
Londonderry, Robert, Marquis of, see Castlereagh.		Louvre.....	697	Lushington, Stephen.....	729
Londonderry, third Marquis of.....	622	Love, Simon Fraser, Lord.....	698	Lustania.....	729
Long, George.....	640	Love Feasts, see Agape.		Lustration.....	728
Long, Roger.....	640	Lovelace, Lady Augusta Ada, see Byron.		Lute, an instrument.....	728
Long, Stephen H.....	640	Lovelace, Richard.....	699	Lute, a mixture.....	728
Long Island.....	641	Lover, Samuel.....	699	Luther, Martin.....	728
Long Island Sound.....	642	Low Countries, see Netherlands.		Lutheran Church.....	729
Longet, François Achille.....	642	Low, Sir Hudson, K.C.B.....	699	Lützen.....	742
Longevity, see Age.		Lowell.....	701	Lützow, Ludwig Adolf Wilhelm.....	742
Longfellow, Henry Wadsworth.....	642	Lowell, Family of.....	702	Lützow, Therese von.....	742
Longford co.....	644	Lowell, John, LL.D. (two).....	702	Luxembourg, Marshal.....	742
Longhi, Giuseppe.....	644	Lowell, Francis Cabot.....	702	Luxemburg, a province.....	744
Longinus, Dionysius Cassius.....	644	Lowell, John, Jr.....	702	Luxemburg, a city.....	742
Longitude.....	644	Lowell, Charles, D.D.....	702	Luxor, see Thebes.	
Longland, Robert, see Langlands.		Lowell, Mary (Mrs. Putnam).....	702	Lynce, Duke of.....	745
Longman, Thomas (two).....	645	Lowell, Robert Trill Spence.....	702	Luzac, Jean.....	746
Longman, Thomas Norton.....	645	Lowell, James Russell.....	702	Luzerne co.....	746
Longstreet, William.....	646	Lowell, Maria (White).....	704	Luzerne, see Lucerne.	
Longstreet, Augustus Baldwin.....	646	Lower Empire, see Byzantine Empire.		Luzon, see Philippine Islands.	
Longueville, Duchesse de.....	647	Lowndes co., Ga.....	704	Luzula.....	746
Longus.....	647	Lowndes co., Ala.....	704	Lycenon.....	746
Longworth, Nicholas.....	648	Lowndes co., Miss.....	704	Lyconia.....	746
Lönnrot, Elias.....	648	Lowndes, Rawlins.....	704	Lycosum.....	746
Loe Choo Islands.....	648	Lowndes, William Jones.....	705	Lychols.....	747
Loomis, Elias.....	650	Lowth, William.....	705	Lycorning co.....	747
Loon, see Diver.		Lowth, Robert, D.D.....	705	Lycos.....	748
Lopo de Vega, see Vega.		Loya, see Loja.		Lycopodium.....	748
Lopez, Narciso.....	650	Loyd, Lewis.....	706	Lycophoron.....	748
Lophodon.....	650	Loyola, Saint Ignatius de.....	706	Lycopodaceae.....	749
Lophobranchs.....	651	Louise.....	707	Lycargus, the Spartan.....	749
Louis co.....	651	Lubbock, Sir John William.....	707	Lycargus, an Athenian.....	750
Lord, Nathan, D.D.....	651	Lubbeck.....	708	Lydia.....	750
Lord's Day.....	651	Lublin.....	708	Lydgate, John.....	750
Lord's House of.....	652	Lubricant.....	708	Lydis Stone.....	752
Lord's Supper.....	652	Luce, Giordano, see Giordano.		Lye, Edward.....	752
Loretto, see Casa Santa.		Luce, Earl of.....	709	Lyell, Sir Charles.....	752
Lord.....	650	Lucan, Marcus Annus Lucanus.....	710	Lyeodium.....	752
Lorient.....	650	Lucania.....	710	Lying to.....	752
Lorne, Marion de.....	650	Lucas co., Ohio.....	710	Lykins co.....	753
Lorraine.....	650	Lucas co., Iowa.....	710	Lyly, John, see Lilly.	
Lorraine, Cardinal of.....	651	Lucas, Frederic.....	710	Lyman, Phineas.....	753
Lorraine, Claude, see Claude Lor- raine.		Luca.....	711	Lymph.....	753
Lortising, Albrecht Gustav.....	651	Luchesi, Girolamo.....	712	Lynch, Anne Charlotte, see Botta, Anne Charlotte.	
Lory.....	651	Lucena.....	712	Lynch, Thomas, Jr.....	754
Los Angeles co.....	652	Lucerna.....	712	Lynch, William F.....	754
Los Herreros, see Breton de Los Herreros.		Lucerne.....	712	Lynchburg.....	755
Lossing, Benson J.....	652	Lucerne, Lake.....	714	Lyndhurst, John Singleton Copley.....	755
Lot.....	652	Luchetta de Genova, see Cambiaso.		Lynn.....	755
Lot, a river.....	652	Lucian, Saint.....	714	Lynn, Elias.....	755
Lot, a department.....	652	Lucifer.....	715	Lynn-Begs.....	755
Lot, son of Haran.....	652	Lucifer, Bishop.....	715	Lyon, George Francis.....	757
Lot-et-Garonne.....	652	Lucillas, Calus.....	715	Lyon, Mary.....	757
Lothaire I.....	652	Lucina.....	715	Lyon, Matthew.....	758
Lottery.....	652	Lücker, Gottfried Christian Fried- rich.....	715	Lyonnais.....	759
Lotos.....	652	Lucknow.....	716	Lyonnais, Peter.....	759
Loudon co.....	657	Lucresia, see Brutus, Lucius Ju- nius.		Lyons, France.....	759
Loudon, Gideon Ernst, Baron.....	657	Lucratus (Titus Lucratus Carus).....	717	Lyons, N. Y.....	759
Loudon, John Claudius.....	657	Lucullus, Lucius Licinius.....	717	Lyons, Richard Bickerton Pemell.....	759
Loudon, Jane.....	658	Luden, Heinrich.....	718	Lyons, Edmund Mowbray.....	759
Lough, John Graham.....	658	Lüder, Alexander Nicolavitch.....	718	Lyre.....	759
Louis I, le Débonnaire.....	658			Lyre Bird.....	759
Louis VI, France.....	659				

	PAGE
Lysander.....	763
Lysias.....	764
Lysimachia.....	764
Lysimachus.....	764
Lysippus.....	765
Lythrum.....	765
Lyttelton, George.....	766
Lyttelton, Thomas.....	766
Lytton Bulwer, see Bulwer Lytton.	

M

M.....	766
Mab.....	766
Mabillon, Jean.....	767
Mably, Gabriel Bonnot de.....	767
Mabuse, Jan.....	767
Macadam, John London.....	767
Macanally, David Rice.....	769
Macao.....	769
Macaque.....	769

	PAGE
Macaroni.....	770
Macaronic Poetry.....	770
Macarthur, Duncan.....	770
Macartney, George.....	770
Macassar.....	771
Macassar, Strait of.....	771
Macanuco, see Lemur.	
Macaulay, Catharine (Sawbridge).....	771
Macaulay, Thomas Babington.....	771
Macaw.....	773
Macbeth.....	774
Maccabees, see Asmoneans, and Hebrews.	
Maccabees, Books of.....	774
Maccall, Edward R.....	775
Macchiavelli, Niccolo.....	775
Macclesfield.....	777
Macclintock, Sir Francis Leopold, LL.D.....	777
Macclintock, John, D.D.....	779
Macclure, Sir Robert John Le Mesurier.....	790
Macclurg, James.....	781
Macconnel, John L.....	781

	PAGE
Maccord, David J.....	781
Maccord, Louis S. (Cheves).....	782
Maccoosh James, LL.D.....	782
Maccracen co.....	783
Maccrea, Jane.....	783
Maccrie, Thomas, D.D.....	782
Macculloch, John.....	783
Macculloch, John Ramsay.....	783
Macdiarmid, John.....	783
Macdiarmid, John.....	784
Macdonald co.....	784
Macdonald, Etienne Jacques Joseph Alexandre.....	784
Macdonald, Flora.....	784
Macdonald, James, M.D.....	785
Macdonough co.....	785
Macdonough, Thomas.....	785
Macdougall, Alexander.....	786
Macdowell co.....	786
Macdowell, Patrick.....	786
Macduffie, George.....	786
Mace, see Nutmeg.	
Macdonia.....	787
Macferrin, John Berry, D.D.....	788

THE

NEW AMERICAN CYCLOPÆDIA.

JERUSALEM

JERUSALEM (Heb., habitation of peace; Sept. *Ἱερουσαλὴμ*; Vulg. *Hierosolyma*; Arab. *El Kuds*, the Holy), a city of Palestine, of which it was anciently the capital, and now the seat of a Turkish pasha. It is the holy city of the Hebrews and Christians, and one of the three holy cities of the Mohammedans, ranking next in sanctity to Mecca and Medina. It is in lat. 31° 46' N., long. 35° 18' E., 128 m. S. S. W. from Damascus, 27 m. E. from the Mediterranean, and 14 m. W. from the Dead sea. Its elevation above the Mediterranean is 2,300 feet, and above the Dead sea 8,708. Population probably about 18,000, of whom 7,000 are Mohammedans, 6,000 Jews, and 5,000 Christians, mostly of the Greek and Latin churches, with a few hundred Armenians, Syrians, Copts, and Protestants. The Mohammedans are mostly of Arab descent, with a few Turks in the employ of the government. The Jews are chiefly of Spanish origin, their ancestors having come from Spain about the beginning of the 16th century. They still speak a corrupt Spanish dialect. There are also some German and Polish Jews. The Jewish community inhabit a particular quarter of the city, and are governed to a great extent by their own rabbinical laws. Their chief rabbi is called in Hebrew "the head in Zion," and his chief interpreter has a seat in the municipal council. The Jews' quarter is badly built and filthy, and the people suffer much from crowded dwellings, scarcity of water, and general poverty. The Greek Christians are Arabs, and speak only the Arabic language, except the superior clergy and the monks, who are Greeks from the Greek islands. The patriarch of Jerusalem is their head. They have 8 convents and 5 nunneries in the city. The Latin Christians or Roman Catholics are principally natives of Syria, seceders from the Greek church, and speak only Arabic. They have a patriarch, who has spiritual oversight of all the Roman Catholic churches in Palestine. The convents, however, are not under his jurisdiction, but are under the superintendence of an abbot or "warder," who is styled "guardian of Mount Zion and keeper of the Holy Land." He is always an Italian, and is appointed by the pope every 3 years. There are

14 convents in Syria subject to him, of which the principal is the convent of St. Salvador at Jerusalem. The Protestant population of the city numbers about 100. An Anglican bishop resides there, with a diocese including Palestine, Syria, Mesopotamia, Chaldea, Egypt, and Abyssinia. This bishopric was established in 1841 by the joint action of the Prussian and British governments. Several Protestant missions are also maintained in the city by churches in Europe and America.—Jerusalem is almost on the summit of a broad, irregular mountain ridge, whose watershed is a little to the westward of the city, so that streams whose sources are but a few miles from its walls flow on the one hand to the Mediterranean, and on the other to the Dead sea. The summit of the mountain ridge is broken into many rugged limestone crowns divided by deep ravines. In the midst of these crowns are two valleys, which at first are only gentle depressions, having between them a stony swell $\frac{1}{2}$ m. wide, and both of them run E. for a short distance. That on the N. continues E. about 1 $\frac{1}{2}$ m., then sweeps to the S., and soon becomes deep and narrow with precipitous sides. This is the valley of Jehoshaphat, or of the brook Kedron. The other valley, the valley of Hinnom, runs at first about $\frac{1}{4}$ m. E. by S., turns suddenly S. for $\frac{1}{2}$ m. and then E., and descending unites with the valley of Jehoshaphat. On the broad high platform between these two valleys stands Jerusalem. The platform itself is divided by another valley, anciently called the Tyropæon, which runs with a slight curve from the N. W. to the S. E., having a high ridge on each side terminating on the S. in abrupt declivities. The city occupies the S. part of these ridges with a portion of the intervening valley; anciently it covered the whole of them. Irregular rounded hills encompass it, rising above the buildings about 200 feet where highest, with openings through which views of the distant country are obtained. On the E. is the Mount of Olives, rising steeply from the valley of Jehoshaphat. On the S. the Hill of Evil Counsel overhangs the valley of Hinnom. On the W. the ground rises gently to the great *wady* or valley of Beit Hanina, whose waters run to the Mediterranean.

On the N. a bend of the ridge, connected with the Mount of Olives, bounds the prospect at the distance of more than a mile. The breadth of the whole site of Jerusalem, from the brow of the valley of Hinnom, near the Jaffa gate, to the brink of the valley of Jehoshaphat, is about 1,020 yards, or $\frac{1}{4}$ of a mile, of which distance 818 yards are occupied by the area of the great mosque El-Harem esh-Sherif, commonly called the mosque of Omar. The country around Jerusalem is all of limestone formation, and not particularly fertile. The rocks everywhere come out above the surface, which in many parts is also thickly strewed with large stones; and the whole region has a barren and dreary aspect. Yet the olive thrives, and fields of grain are seen in the valleys and level places. Neither vineyards nor fig trees flourish near the city. Jerusalem is surrounded by high walls, built by the Turkish sultan Solymán the Magnificent in 1542. They are 15 feet thick, and vary in height with the inequalities of the ground from 25 to 70 feet. Their total circuit is 4,826 yards, or about $2\frac{1}{2}$ m. The city is irregular in its outline, but approaches a square whose 4 sides nearly face the cardinal points. It has 5 gates, two on the S. and one near the centre of each of the other sides. On the W. is the Hebron or Jaffa gate, the chief entrance to the city. On the N. is the Damascus gate, on the E. St. Stephen's, and on the S. the Zion gate and an obscure and little used portal called the Dung gate. The streets are narrow, winding, and dirty, and badly paved where paved at all. The houses are well built of limestone, cream-colored and streaked with blood-red, and are for the most part 2 or 3 stories high, with a plain front without windows in the lower stories, and with doors so low that a person must stoop to gain entrance. The roofs are terraced or rise in domes, and the apartments receive their light from interior courts, which in the larger houses form cool and agreeable promenades secluded from public view. The principal apartments are upon the second story, the lower story being occupied by lumber rooms, kitchens, stables, cisterns, and offices.—Ancient Jerusalem, as it existed in the time of Christ, or somewhat later at the time of its conquest by the Roman army under Titus, A. D. 70, is described by Josephus as built upon two hills, between which lay the valley Tyropæon or the valley of the Cheesemakers, to which the buildings on both hills came down. The upper hill was much higher than the other, and was called by King David the Fortress, but Josephus calls it the Upper Market. The other hill, on which was the lower town, was called Akra, and was in the shape of a crescent. Opposite Akra to the S. E. was Moriah, on which stood the temple. Moriah was naturally lower than Akra, from which it was separated by a broad valley; but in the time of Simon Maccabæus Akra was cut down so that the temple rose above it, and at the same time the valley between it and Moriah was filled up. Both the hills on which the upper and

lower towns stood were externally protected by precipices and deep valleys. The ancient city was defended at the time of the Roman siege by three walls, the most ancient of which appears to have enclosed Mt. Zion, part of which is outside of the modern city. The second wall enclosed the whole of Akra excepting that part of its E. side which fronted the temple area on Mt. Moriah, and the S. side toward the valley which separated the lower from the upper city. In the first century of the Christian era, the city having extended northward beyond the second wall, a third wall was built to protect this suburb, which was called Bezetha. The total circumference of the ancient city, according to Josephus, was about $8\frac{1}{2}$ m. With regard to the details of the ancient topography there is much uncertainty, and great controversy. One of the most recent investigators, the Rev. Dr. Thomson, after nearly 25 years' residence in Palestine, says: "It is my own decided impression that no ingenuity can reconstruct the city as our Saviour saw it, or as Josephus describes it. No man on earth knows the line of the E. and S. E. portions of the first wall, nor where the second began, nor how it ran after it began, nor where the third wall commenced, nor one foot of its circuit afterward; and of necessity the locations of castles, towers, corners, gates, pools, sepulchres, &c., &c., depending upon supposed starting points and directions, are merely hypothetical. One hypothesis may have more probability than another, but all must share the uncertainty which hangs over the data assumed by the theorizers."

—The most striking view of Jerusalem is from the summit of the Mount of Olives, about half a mile E. from the city, which it completely overlooks, every considerable edifice and almost every house being distinctly visible. The city, seen from this point, appears to be a regular inclined plane, sloping gently and uniformly from W. to E. or toward the observer, and indented by a slight depression or shallow vale running nearly through the centre in the same direction. The S. E. corner, that which is nearest to the observer, is occupied by the great mosque and its extensive and beautiful grounds, covering Mt. Moriah, the site of the ancient temple, and comprising about one eighth of the whole of the modern city. It is covered with greensward, and planted sparingly with olive, cypress, and other trees, and is the most beautiful feature of the town. The S. W. quarter, embracing that part of Mt. Zion which is within the modern town, is to a great extent occupied by the Armenian convent, an enormous edifice, which is the only conspicuous object in this neighborhood. The N. W. is largely occupied by the Latin convent, another very extensive establishment. About midway between these two convents is the castle or citadel. The N. E. quarter of Jerusalem is but partially built up, and it has more the aspect of a rambling agricultural village than of a crowded city. The vacant spots here are green with

gardens and olive trees. There is another large vacant tract along the S. wall, and W. of the Harem esh-Sherif, also covered with verdure. Near the centre of the city also appear two or three green spots which are small gardens. The church of the Holy Sepulchre is the only conspicuous edifice in this vicinity, and its domes are striking objects. There are no other buildings which either from their size or beauty are likely to engage the attention. Eight or ten minarets mark the position of as many mosques in different parts of the town, but they are only noticed because of their elevation above the surrounding edifices. For the same reason the eye rests for a moment upon a great number of low domes, which form the roofs of the principal dwellings, and relieve the heavy uniformity of the flat plastered roofs which cover the greater mass of more humble habitations. The Harem esh-Sherif, the "Noble Sanctuary," forms the most conspicuous feature of the city, and is one of the most sacred temples of the Mohammedan world. It is a quadrangle 1,489 feet long by 954 broad. It contains two mosques, the oldest of which, El Aksa, was originally a Christian church built by the emperor Justinian about the middle of the 6th century, and is 272 feet long by 184 wide. The other mosque, Kubbet es-Sukhras, or the "Dome of the Rock," stands on the very summit of Mt. Moriah, and is built over a singular projecting rock, which is supposed to be the "threshing floor of Araunah the Jebusite," where David sacrificed, and afterward the site of the great altar of burnt offering in Solomon's temple. By the Mohammedans it is regarded with the highest veneration, their traditions saying that Mohammed called it one of the rocks of paradise, and they believe that from it he made the ascent into heaven narrated in the Koran. The building is an octagon, each side of which measures 67 feet. It is surmounted by a peculiarly light and graceful dome terminated by a tall gilt crescent. The entire building forms one of the finest and most celebrated specimens of the Saracenic style of architecture. Its erection is commonly ascribed to the caliph Omar about 650, but some of the Arab historians state that it was built by the caliph Abd el Malek in 686. An eminent English writer on architecture, Mr. Fergusson, maintains that it was built by the Roman emperor Constantine in the earlier part of the 4th century over the sepulchre of Christ. This opinion, however, finds few supporters. The people of Jerusalem itself, and the majority of those who have written on the topography of Jerusalem, believe that the sepulchre is in the middle of the N. W. quarter of the city. The church of the Holy Sepulchre, built by Constantine or his mother Helena, is 300 feet long and nearly 200 feet broad, and is supposed to include within these limits the scene of the crucifixion, entombment, and resurrection of Christ. The general plan of the church is a rotunda divided and elongated; that is, the sides of the church are parallel, and the ends semi-circles; the

eastern semi-circle is smaller than the western. The main entrance is in the S. side of the church. On entering, the pilgrim finds immediately at his right hand a chamber, the roof of which is the floor of a chapel. This chamber has on the right and left the tombs of Godfrey and Baldwin, between which the pilgrim passes to the chapel of Adam, a small room ending against the native rock. In this rock is visible a huge fissure, said to have been made by the earthquake at the time of the crucifixion. This rock, ascending through the roof of the chamber, is the supposed site of Calvary. Outside the room, two staircases lead up to the floor of the chapel above it, which is the chapel of Calvary or of the Elevation of the Cross; within this the pilgrim is permitted to approach, on his knees, a hole in the rock usually covered with a silver plate, in which he is told the cross of Christ was set. In front of the great doorway, and within the church, is a large smooth slab of the native stone of the floor of the church, which is called the stone of unction, and is pointed out as the spot where the body of Christ was laid by Joseph to be anointed for burial. This lies between Calvary and the tomb; passing it, the pilgrim enters the great semi-rotunda in the W. end of the church, in the centre of which, under an open unglazed dome, is the holy sepulchre. This is enclosed in a beautiful chapel of various-colored marbles. The first room is the chapel of the Angel; from this the pilgrim enters, by a low passage, a sepulchral chamber 6 feet 2 inches long by 6 feet wide, having an arched roof about 7 feet high; one half of this is occupied by a stone couch, covered with a marble slab. This entire tomb is said to be carved in solid rock, and it is claimed for it that this is the identical tomb in which the body of Christ lay, on the couch now hidden from view by the slab; others deny that the tomb is solid rock, and affirm that it is all a constructed building. In the chapel of the Angel is shown a fragment of stone said to be part of the stone rolled away by the angels. Another and larger fragment is claimed and exhibited by the Armenians in a chapel on Mt. Zion. In galleries around the church, and in small buildings attached to it on the outside, are apartments occupied by a number of monks of various nations, who are devoted to the service of the sepulchre, and in Passion week perform there a variety of ceremonies which annually attract a large crowd of pilgrims. Concerning the authenticity of these sacred places a great deal of controversy has existed and is still kept up. Dr. Robinson, in his "Biblical Researches," arrives at the conclusion "that the genuineness of the present site of the holy sepulchre is supported neither by well authenticated historical facts, nor by prior tradition, nor by archaeological features." His main argument to this effect attempts to show by the topography of Jerusalem that the present locality of the sepulchre was within the walls of the city at the time of the crucifixion, and consequently could not be near

the place where Christ was crucified, which is stated in the Gospel to have been without the gates. Most Protestant and a few Catholic investigators agree substantially with Dr. Robinson; while on the other hand the great majority of Catholics and some Protestant travellers believe in the genuineness of these remains. Among others, Mr. William O. Prime, a recent American traveller, maintains the authenticity of the sepulchre on the following grounds: "It is not credible that this locality was forgotten by Christians within 800 years after the great events of the crucifixion, burial, and resurrection. Critical scholars and learned men, employed in investigating the topography of the Holy Land, had no doubt of its authenticity in the beginning of the 4th century; no one, so far as we know, thought in that age of disputing the fact, but all men acknowledged its truth; it is not doubted by any one that this is the locality in which those learned men placed their confidence, it having been well preserved from that time to this." Some of the convents of Jerusalem are large and well built edifices. The first in size is the Armenian convent, which is the residence of the patriarch of that sect, who lives in a considerable degree of state and luxury. The Latin convent, belonging to the Franciscans, is also very extensive, and resembles a fortress. It accommodates great numbers of pilgrims, and is supported by donations from the Catholic countries of Europe. The hills and valleys around Jerusalem are thickly studded with ancient tombs, among which may be mentioned the tomb of David, now covered by a Mohammedan mosque, the tomb of Absalom, and the tomb of Helena (commonly called the tombs of the kings), a queen of Adiabene, who became a proselyte to Judaism in the 1st century. Many of these tombs are excavated to a considerable depth in the rocky hill sides, and are curious and interesting monuments.—Jerusalem is the seat of little trade, though it is a central point for the caravans between Arabia, Egypt, and Syria. Its only manufactures are of soap, oil of sesame, and beads, crosses, shells, and models of the holy sepulchre, which, after receiving a sort of benediction, are exported in considerable quantities to Greek and Catholic countries. The bazaars are scantily supplied with provisions, tobacco, coarse cottons, and other articles of necessity.—Jerusalem is mentioned very early in Scripture, it being commonly supposed to be the Salem of which Melchisedek was king in the time of Abraham. The mountain of the land of Moriah, to which Abraham went to offer up Isaac as a sacrifice, is supposed to have been the Mt. Moriah afterward occupied by the temple and now by the great Mohammedan sanctuary. The name Jerusalem first occurs in Joshua x. 1, where Adoni-zedek, king of Jerusalem, is mentioned. It was at that time a strong city, inhabited by the Jebusites. The Israelites after the death of Joshua attacked it and took the lower city, but could not drive out the Jebusites from

the fortress on Mt. Zion, which they held for several generations, until it was at length captured by David, who made it his residence and the capital of the Hebrew kingdom. His successor Solomon built the famous temple, and otherwise embellished the city. After his death the importance and splendor of Jerusalem were considerably lessened by the revolt of the 10 tribes, which left it the capital of only the very small state of Judah. Under King Rehoboam, 971 B. C., it was taken by Shishak, king of Egypt, who plundered the temple of its treasures. It was subsequently conquered and pillaged by Jehoash, king of Israel, and was afterward enlarged and beautified by Uzziah, Jotham, Hezekiah, and Manasseh. In 598 B. C., and again in 588, the city was besieged and taken by the Babylonian conqueror Nebuchadnezzar. The second siege lasted 8 years, and on its termination the Babylonians burned the temple and the palaces, razed the walls, and carried away captive Zedekiah, the last king of the house of David, together with many of the people. In 538 Cyrus, king of Persia, having conquered Babylon, permitted the Jews to return to Jerusalem and rebuild the temple. The city, however, remained without walls until 444 B. C., when Nehemiah was appointed governor by the Persian monarch Artaxerxes, and began to restore the fortifications. From this time till the conquest of Syria by Alexander the Great (332) the history of Jerusalem is obscure, though the city seems to have been peaceful and prosperous under the dominion of its Persian masters. According to Josephus, it adhered to the Persians during the Macedonian invasion; and when Alexander advanced against it with hostile intent, his wrath was averted by the high priest Jaddua, whom he recognized as a personage he had seen in a dream. The Greek historians of Alexander, however, make no mention of this movement against Jerusalem. After Alexander's death, Ptolemy, king of Egypt, attacked Jerusalem on the Sabbath when the Jews would not fight, plundered the city, and transported many of its inhabitants to Egypt. It soon regained its prosperity, however, and flourished under the dominion of the Ptolemies as a province of Egypt till 198, when it submitted to Antiochus the Great, king of Syria, by whom it was treated with indulgence and favor. Under one of his successors, Antiochus Epiphanes, the Jews were persecuted and rebelled; and in 169 Antiochus massacred the people of Jerusalem, destroyed the walls, defiled the temple, and, placing a strong garrison in a citadel which he built, prohibited the Jewish worship altogether, and punished severely those who refused to sacrifice to Greek idols. This persecution caused the revolt of the Jews led by the Maccabees, who after a fierce struggle obtained possession of Jerusalem in 168 B. C., though the citadel remained in the hands of the Syrian garrison till 143. The next remarkable event in the history of Jerusalem was its capture by the Romans under Pompey in 63 B. C., when 12,000 of the citizens were slain and

the walls demolished. They were rebuilt in 48 by Antipater, under whose son Herod the Great the city was enlarged and adorned with magnificent structures, the temple being rebuilt on a much more splendid and extensive scale than that of Solomon. Jerusalem at this time seems to have reached the summit of its greatness, and it is conjectured, may have contained 300,000 inhabitants in its lofty and closely compacted dwellings. This period is marked by the most memorable events in its history, the birth, ministry, and crucifixion of Christ. About 40 years after this latter event the tyranny of the Romans drove the Jews to revolt, and in A. D. 66 Jerusalem was taken by the insurgents, and a Roman army commanded by Cestius Gallus, governor of Syria, was routed in a battle before its walls. Titus, the son of the emperor Vespasian, regained it in 70, after one of the most terrible sieges recorded in history. The temple was burned and the city razed to the ground, the Romans leaving only 3 towers and a part of the wall to show how strong a place their arms had overthrown. In 131 the emperor Hadrian ordered the city to be rebuilt. The Jews, apprehending that pagan idols would be set up in their holy places, broke into rebellion and took Jerusalem, which the Romans regained only after a protracted and sanguinary contest. They then finished the rebuilding of the city, and, calling it *Ælia Capitolina*, made it a Roman colony, and forbade the Jews to approach it on pain of death. It continued to be known by its new name till the time of Constantine, whose mother Helena made a pilgrimage to it in 326. The emperor Julian repealed the edicts which forbade the Jews to enter Jerusalem, and permitted them in 362 to begin to rebuild the temple; but his death soon after put an end to the project, and the edicts against the Jews were renewed, except that once a year they were allowed to enter the city to wail over the desolation of their temple and their holy city. In 451 Jerusalem was made the seat of a patriarch. Justinian, who became emperor in 527, repaired and enriched its churches, founded many convents, and built a church dedicated to the Virgin on Mt. Moriah. The city had now become a place of great resort for pilgrims from all parts of Christendom. In 610 it was stormed and greatly damaged by the Persians, and in 637 it was taken by the Mohammedans under Caliph Omar. It remained in possession of the Arabs till 1073, when it was taken by the Seljookian Turks, whose cruel treatment of the Christian pilgrims created great excitement in Europe, and led to the first crusade for the recovery of the holy sepulchre from the infidels. Shortly before the crusaders under Godfrey reached the city, the Seljooks had been driven out by the Arab sultans of Egypt. The crusaders took the city by storm, July 15, 1099, and made it the seat of a Christian kingdom, which lasted till 1187, when it was conquered by the Egyptian sultan Saladin. In 1229 it was restored to the Christians by a treaty made between the

Mohammedans and the German emperor Frederick II. In 1239 it was again taken by the Mohammedans, who in 1248 again restored it to the Christians. In 1244, however, it was stormed by the Khorasmians, and has ever since been held by Mohammedan masters. For several centuries it declined in importance under the sway of the Mameluke sultans of Egypt, and in 1526 passed with Egypt and Syria into the hands of the Ottoman Turks. From that period till the present time it has remained a part of the Turkish empire, and has been subject to few vicissitudes. In 1832 it submitted to the army of Mehemet Ali, the pasha of Egypt, but was restored to the sultan in 1841. —Almost our only sources of knowledge of ancient Jerusalem are the Bible and the works of Josephus. The Greek and Latin writers scarcely do more than mention the city. Modern Jerusalem has been described by Maundrell, Clarke, Châteaubriand, Richardson, Niebuhr, Wilde, Lamartine, Buckingham, Poujoulat, Olin, Prime, &c. See also Bartlett's "Walks about the City and Environs of Jerusalem" (8vo., London, 1844), Williams's "Holy City" (8vo., London, 1845), and "Robinson's "Biblical Researches" (3 vols. 8vo., Boston, 1856).

JERUSALEM, JOHANN FRIEDRICH WILHELM, a German theologian, born in Osnabrück, Nov. 22, 1709, died Sept. 2, 1789. He was appointed in 1740 preacher to Duke Charles of Brunswick, and in 1742 became tutor of the hereditary prince. In 1752 he was placed in charge of a theological seminary established by the Protestants in the former convent of Ridagshausen. He declined the appointment of chancellor of the university of Göttingen, and became in 1771 vice-president of the consistory at Wolfenbüttel. He still bears the reputation of having been one of the best preachers of Germany. He was the father of the unfortunate Karl Wilhelm Jerusalem, whose suicide suggested to Goethe the catastrophe of the "Sorrows of Werther."

JERVIS, SIR JOHN, earl of St. Vincent, a British admiral, born in Meaford, Staffordshire, Jan. 9, 1734, died March 15, 1823. He entered the navy at the age of 10 years, and became post-captain of the Gosport of 40 guns in 1760, and in 1774 of the Foudroyant. He distinguished himself in several naval engagements, was made C. B. in 1782, and during the same year sailed with Lord Howe to the relief of Gibraltar. He was promoted to the rank of rear admiral in 1787, and was in parliament from 1782 until the beginning of the French revolution, when he sailed to the West Indies and captured Martinique and Gadeloupe. He was appointed admiral of the blue, June 1, 1795, and on Feb. 14, 1797, off Cape St. Vincent, defeated a Spanish fleet which was nearly twice as strong as his own. For this he was raised to the peerage by the title of earl of St. Vincent and Baron Jervis of Meaford, receiving a pension of £3,000. He became first lord of the admiralty in Feb. 1801, but was removed from office by Pitt in May, 1804. He took command of the channel fleet in 1806, holding it

however only for one year. In 1810 he appeared for the last time in parliament, when he spoke strongly in censure of the conduct of the war.

JESI, SAMUELE, an Italian engraver, born in Milan about 1789, died in Florence, Jan. 17, 1858. He was a pupil of Longhi, and first brought himself into notice by engravings of St. John and St. Stephen from Fra Bartolomeo's pictures in the cathedral at Lucca. Subsequently he devoted himself chiefly to the works of Raphael, of whom he is considered one of the most sympathetic copyists. His *chef d'œuvre* are the portraits of Leo X. and Cardinals Rossi and Giulio de' Medici, from the original in the Pitti palace, which is said to have occupied him 5 years. His engraving of Raphael's "Virgin with the Vine" is one of the choicest productions of the graver in modern times. During his later years he gave much attention to the process of engraving in chalk, for instruction in which he formed a school.

JESSAMINE, a central co. of Ky., bounded S. by Kentucky river; area, 160 sq. m.; pop. in 1850, 10,249, of whom 3,825 were slaves. It has a somewhat diversified surface, with a soil of more than ordinary richness. The productions in 1850 were 725,891 bushels of Indian corn, 134,750 of oats, 1,568 tons of hemp, 4,800 lbs. of tobacco, and 87,153 of wool. There were 11 grist mills, 17 saw mills, 16 churches, and 601 pupils attending public schools. The Lexington and Covington railroad passes through the county. Capital, Nicholasville.

JESTER. See FOOL.

JESUITS, or THE SOCIETY OF JESUS (*Societas Jesu*), the most celebrated and influential among the religious orders of the Roman Catholic church, founded by St. Ignatius Loyola. When studying at the university of Paris, Ignatius united himself (1534) with Le Fèvre (Faber), Francis Xavier, Laynez, and 6 other young men, to make a pilgrimage to Palestine, and to labor there for the conversion of the Saracens. Thwarted in this design by a war between the emperor Charles V. and the Turks, Ignatius, Laynez, and Faber went to Rome, threw themselves at the feet of the pope, and asked him to employ them for some other good work. In 1539 Ignatius convoked all his associates, who were scattered in various parts of Italy, and laid before them the plan of a new order, whose members, beside taking upon themselves the three usual vows of poverty, chastity, and obedience, also bound themselves by a fourth vow to go without hesitation wherever the pope might send them in order to labor for the salvation of souls. On Sept. 27, 1540, the order was confirmed by Pope Paul III. The membership was at first limited to 60, which provision was, however, repealed in 1548. Ignatius was elected the first general, and took up his abode in 1541 at Rome, where he died in 1556. In 1545 the order received great privileges, and in 1571 all the rights of the mendicant orders.—The constitution of the Jesuits differs in many points from that of the other re-

ligious orders. The principal share in framing it has been attributed by some to Laynez. It was originally written in Spanish, but soon translated into Latin, and published for the first time in 1558. A very strict examination precedes the reception of new members, and 5 points are designated as absolute impediments to admission, viz.: the commission of murder, apostasy, or other grievous offences, subjection to a degrading sentence, membership in a monastic order, marriage, and insanity or decided weakness of intellect. The novitiate lasts two years, during which the novices are not allowed to study, but devote their entire time to prayer and prolonged meditation. The "Spiritual Exercises," composed by Ignatius in 1522, are their principal guide. Their fitness is tried by many severe tests. After the expiration of the two years the novice may offer himself for reception into the society, takes the vows of poverty, chastity, and obedience, and is admitted among the scholastics. In this second stage of his religious life he generally devotes 15 or 17 years to study and teaching in the colleges of the order, first studying belles lettres, rhetoric, philosophy, the physical and mathematical sciences, then teaching in succession various branches, beginning with the lowest class, and at last pursuing for 4 or 6 years the study of theology and the oriental languages. The course of these studies was regulated by the *Ratio Studiorum*, first published in 1586, revised in 1599, and again in 1832 (*Ratio atque Institutio Studiorum Societatis Jesu*, Rome, 1832). After the completion of his studies, the candidate performs a second novitiate, lasting one year, during which he lives in retirement, in order to receive the last preparation in "the school of the heart" (*in schola affectus*). Only occasional light duties of the ministry interrupt his solitude. He has to make himself thoroughly acquainted with the constitution of his order, and a detailed report on his progress in virtue and science is made by his superior to the general of the order, who in accordance with this report admits him to the rank of either *coadjutor spiritualis* or *professus*. The *coadjutors* have, on the whole, the same rights as the *professi*, but cannot take part in the provincial and general congregations of the order, and cannot be elected to a higher office than the rectorate of a college. The professed members, in whose hands the supreme government of the order lies, take upon themselves the fourth vow, to go as missionaries wherever the pope may send them. Beside the above classes of members, there are also lay *coadjutors*, who are received for domestic employments. At the head of the order is a general, who has a more absolute power than the generals of other religious orders. He is elected for life, appoints nearly all the officers of the order, and receives monthly reports from the provincials, and quarterly reports from the superiors of the professed houses, the rectors of the colleges, and the masters of the novices. Every third year the catalogues of every province, with detailed reports on the capacity and

conduct of every member, must be sent to him. The order is divided into provinces. A province is governed by a provincial, a professed house by a *præpositus*, a college by a rector, a residence by a superior. A provincial congregation consists of all the professed members and such coadjutors as are rectors of colleges. A general congregation meets only for the election of a new general or for deliberating on subjects of very great importance, such as the dissolution or transfer of houses or colleges. It consists of all the provincials and two delegates from every provincial congregation. The general congregation which elects a new general elects also a monitor, whose duty it is to observe the conduct and actions of the general, and, if necessary, to admonish him, and a certain number of assistants (originally 4 for Spain, Portugal, Italy, and Germany, afterward 5, one being added for France, and still the same, one being now appointed for Great Britain and her colonies and the United States, and none for Portugal), whose advice the general is bound to seek. The Jesuits wear no monastic habit, but dress in black, nearly like secular priests. Two popes (Paul IV. and Pius V.) and one general (Francis Borgia) wished to assimilate the Jesuits in some points more to the other religious orders, in particular by introducing the observance of the canonical hours; but this was soon given up, and the whole energy of the order directed to laboring in behalf of the church by means of education and missions.—The order spread with unparalleled rapidity, so that it was said to have had no period of youth. At the death of Ignatius there were 1,000 members in 12 provinces; soon after the death of Acquaviva, in 1618, 18,000 members in 32 provinces; in 1749, 24 professed houses, 669 colleges, 176 seminaries, 61 novitiates, 385 residences, 278 missions in Protestant and pagan countries, and about 22,600 members. In Portugal it was introduced as early as 1540 by St. Francis Xavier and Rodriguez, who found a zealous patron in King John III. Rodriguez established a college at Coimbra, which in 1544 counted 60 members. A considerable number of young noblemen prayed for admission, and thus the order soon became influential. In Spain the Jesuits had at first to overcome the opposition of several bishops, but the patronage of Francis Borgia, at that time governor of Barcelona, soon procured for them a favorable reception and a number of houses and colleges, and at the university of Salamanca they received some of the theological chairs. In France, where they likewise appeared as early as 1540, they met with a very decided resistance on the part of the parliament, the university of Paris, and many bishops. They could not secure a legal existence until 1562, when they were recognized as "fathers of the college of Clermont." The parliament at first refused to register the royal patent, but had at length to yield to the order of the king. They were unable, however, to overcome the

opposition of the parliament and the Sorbonne. When Châtel, who had studied in one of their colleges, made an attempt against the life of Henry IV., they were expelled from France by a decree of the parliament in 1594, and Father Guignard, who was accused of having approved the attempt of assassination, was put to death. Henry IV. himself recalled them in 1603, and from that year they remained in the undisturbed possession of their property. They enjoyed the confidence of Louis XIII., Cardinal Richelieu, and Louis XIV., and were the principal combatants against the doctrines of the Jansenists. Their colleges were very numerous, and among their pupils were Descartes, Bossuet, Corneille, and Voltaire. Two Jesuits were sent to Ireland as papal nuncios under the reign of Henry VIII. Elizabeth expelled them from her dominions, and forbade them, upon penalty of death, to return. We find them, nevertheless, again as missionaries under the reign of James I., and after the discovery of the gunpowder plot (1605) Father Garnet, to whom the plot had been communicated in the confessional, was put to death. (See the proceedings of this trial in vol. ii. of "Criminal Trials," published by the society for the diffusion of useful knowledge.) In 1678 Titus Oates charged them with having entered into a conspiracy against Charles II. and the state, in consequence of which 6 Jesuits were put to death. In spite of several decrees against the public exercise of the Roman Catholic religion in England in general and the residence of Jesuits in particular, the society maintained itself there, although it never became very numerous. The Jesuits first appeared in Germany in pursuance of a call of Ferdinand I. of Austria (1551). They received chairs at the Bavarian university of Ingolstadt and colleges at Cologne (1556), Munich (1559), Treves (1561), Augsburg (1563), and several other places. In Italy they spread more rapidly and more extensively than in any other country. They were banished from Venice, however, in 1604, and the popes did not succeed until 1656 in causing their restoration. A war between France and Charles V., during which all Spaniards were ordered to leave France, brought some Jesuits to the Netherlands, soon after the foundation of the order. They gained a firm footing under Philip II., although the bishops showed them less favor than in other countries. In Transylvania they were favored by Prince Christopher Báthori and his son and successor Sigismund, but the assembly of the states compelled the latter prince (Dec. 16, 1588) to sign a decree of banishment. They became very numerous in Poland, which they divided before the end of the 16th century into two provinces, and where they had houses and colleges in 20 towns. In Sweden they made great efforts, under John III. and Sigismund, to restore the sway of the Roman Catholic church, but the dethronement of Sigismund in 1602 destroyed their hopes. In Russia favorable prospects seemed to open for them with the

reign of Pseudo-Demetrius, but the fall of this prince involved that of the Jesuits.—The missionary activity of the Jesuits among the pagans commenced in 1541, the year after the foundation of the order. Francis Xavier sailed in that year to the East Indies, founded a college at Goa, preached in Travancore, Malacca, Macassar, the islands, and Japan, and baptized a vast number of pagans. Other members of the order preached in Madura, Ceylon, and many other places, and the Christian population of their missions in India rose to 100,000. Some members of the order, especially Robert de Nobilibus, appeared as Brahmins, and tried to excel the Hindoo Brahmins as sages and penitents, regarding this as the most efficient means of obtaining the confidence of the Hindoo population. The mission in Japan was commenced by Francis Xavier in 1549; several princes were converted, and some natives were received into the society. In 1613 the Portuguese Jesuits had in Japan 2 colleges, 8 residences, and 8 professed houses; but the persecution which soon after broke out against the Catholics put an end to their establishments. Their last member, a native of Japan, was put to death in 1636. Father Rogerius penetrated into China in 1584, disguised as a merchant. Ricci established a reputation as one of the best Chinese scholars. Others became the teachers and ministers of several emperors. In 1692 they obtained a decree by which Christianity was declared to be a sacred law and the missionaries virtuous men. The number of converts was very large, and amounted in the province of Nankin alone to 100,000. But a controversy with several other orders on the conformity of the Jesuits to the pagan customs in China and India was decided by the pope against the Jesuits, and proved a fatal blow to the prosperity of their missions in these countries. Cochin-China (1614) and Tonquin (1627) became likewise missionary fields for Jesuits; the congregations in Tonquin in 1640 numbered 100,000 members, but they were cruelly persecuted. The most celebrated of the Jesuit missions was that established in Paraguay, where they Christianized and civilized an Indian population of from 100,000 to 200,000 souls. With the consent of the Spanish authorities they retained the civil dominion over the Indians, and their principles of government have been highly extolled by many who in other respects were their opponents, as Montesquieu, Muratori, and Southey, while many of their admirers have represented Paraguay under the sway of the Jesuits as more free from vice and corruption than any other state of modern times. The prosperity of these missions was interrupted in 1750, when Spain ceded 7 parishes to Portugal, and the Indians, with an army of 14,000 men, resisted the execution of this project. After some time, however, the former state of things and the dominion of the Jesuits were restored, both of which continued until the suppression of the order in Spain. In 1866 they were sent to Florida, which in the

following year was formed into a vice-province of the order, and a school for the children of the Florida Indians was commenced in Havana (1568). On the invitation of a Virginian chief, called by the Spaniards Don Luis, Father Segura, the vice-provincial, with 7 members of the order and some Indian youths who had been educated at Havana, undertook to establish a new mission on the banks of the Chesapeake, or St. Mary's bay. But the Indian proved to be a traitor, and Father Segura with all his companions except one lost their lives (1570). This led the Jesuits to abandon Florida for Mexico. The first mission of the Jesuits in California was established by Father Eusebius Kuhn or Kino, in 1683; gradually they founded 16 missionary stations, each of which was generally directed by one missionary. They administered these missions until the suppression of the order in Spain and the Spanish possessions. In 1611 the Jesuits established their first mission in the French possessions in America. This mission was interrupted for a time by the English, who in 1629 took Quebec and carried off the missionaries; but their work was resumed in 1633, and for nearly half a century they wrestled with paganism in the northern wilds. Quebec remained their centre, whence Jesuit missionaries were sent far and wide. The most distant effort made by the Jesuits was a mission in Arkansas. When Louisiana was settled, Jesuits were sent from France to undertake missions on the lower Mississippi, but these missions were not subject to the superior at Quebec, but to another at New Orleans. After the restoration of the order, the Jesuits recommenced their missions among the Indians on the Missouri in 1824, which gradually extended over a number of tribes. In 1840 the mission in Oregon was commenced by Father de Smet, one of the most celebrated missionaries of the order in the present century. Other missions were established among the tribes near the Amazon river in Brazil (1549), Peru (1567), the Antilles (1700), Mexico (1572), Congo and Angola, on the W. coast of Africa (1560), and Turkey (1627), where they effected in particular the submission of many members of the eastern churches to the authority of the pope.—Toward the middle of the 18th century the prime ministers of Portugal (Pombal), Spain (Aranda), and France (Choiseul) resolved nearly at the same time upon the expulsion of the Jesuits from their countries. Pombal was incensed against them, ostensibly because he suspected them of having instigated the Indians in Paraguay to resist the execution of the treaty of cession above mentioned. Soon after an attempt was made to assassinate Joseph I., and several Jesuits, particularly Father Malagrida, were accused of having been privy to the plot. Pombal requested the pope to take measures against the Jesuits; but when Clement XIII. hesitated, a royal edict of Sept. 3, 1759, declared the Jesuits to be traitors, suppressed the order in Portugal, Brazil, and the other Portuguese

colonies, and confiscated its property. All the Jesuits living in Portugal were transported to the Papal States. In France they fell into disfavor at court, when the two fathers who were the confessors of Louis XV. and Mme. de Pompadour refused to admit them to the sacraments, unless the latter was dismissed from court. Mme. de Pompadour and Choiseul united their influence with that of the parliament to suppress the order. At the same time its reputation among the people suffered greatly in consequence of the unfortunate commercial operations of Lavalette, superior of an establishment of the order in Martinique. Lavalette speculated largely in colonial produce, and, when two of his ships were taken by the English, became a bankrupt. A firm in Marseilles brought a suit for indemnification against the whole order, and the inferior courts as well as the parliament of Paris, to which the Jesuits appealed, gave sentence against them, and made them pay 2,000,000 livres to the plaintiff and the costs. Louis XV., who wished to save the society, at first yielded to the urgent calls for its suppression only so far as to demand in Rome that the society be reformed, and that the French Jesuits be placed under a vicar of their own. To this demand the general, Ricci, is reported to have given the famous response: *Sint ut sunt, aut non sint*; whereupon the king expelled them from France in 1764. Their expulsion from Spain was effected in 1767 by Aranda, on the charge that treasonable writings had been discovered in one of the colleges, which declared the king a bastard and not entitled to the throne. On April 2 all the Jesuits of Spain and the Spanish colonies were arrested at the same hour, and shipped to the territory of the pope, who, at the request of the general of the order, refused to receive them. At the same time, and in a similar way, the order was suppressed in Naples, Parma, and Malta. On Dec. 10, 1768, all the Bourbon courts (France, Spain, Naples, and Parma) demanded from the pope its entire suppression for the whole church. Shortly after the pope died (1769), and the Bourbon courts succeeded in procuring the election of Clement XIV. (Ganganelli), who had given to the minister of Spain a written declaration that a pope, without acting against the canonical laws, was at liberty to suppress the order. For 4 years Clement XIV. endeavored to put off an event from which he feared the worst consequences for himself; but at length, when also the court of Vienna consented to the suppression of the Jesuits, he issued, July 21, 1773, the famous brief: *Dominus ac Redemptor noster*, by which the suppression of the society of Jesus in all the states of Christendom was declared. The brief was quickly complied with, yet the archives and treasures found in searching their houses did not equal in importance and amount the public anticipation. The ex-Jesuits had the choice either to enter other religious orders or to place themselves under the jurisdiction of the bishops. Everywhere, except in Portugal,

they received an annuity from the proceeds of their confiscated property. In Prussia, although they had to abandon the constitution of the order (1776), the favor of Frederic II., who esteemed them as teachers, permitted them to continue as an organized society, under the name of priests of the royal school institute. But this institute also was abolished by Frederic William II. In Russia, which, with the eastern part of Poland, had received in 1773 several houses of Jesuits, they enjoyed the patronage of the empress Catharine, who appointed an ex-Jesuit coadjutor of the archbishop of Mohilev, and sent him in 1788 as her minister to Rome. Pope Pius VI. in 1786, at his request, granted to the Jesuits of Russia the privilege of electing a vicar-general. The number of Jesuits in Russia amounted at that time to 178, and the total number of ex-Jesuits was estimated at about 2,000. Attempts to restore the order under other names were made in 1794, when the ex-Jesuits De Broglie and De Tournely founded the "Society of the Sacred Heart," and in 1798, when Paccanari founded the "Society of the Faith of Jesus." Neither met with much success. Better prospects for the ecclesiastical restoration of the order seemed to open with the beginning of the pontificate of Pius VII. (1801), who in 1804 confirmed its introduction into the kingdom of the Two Sicilies. On Aug. 7, 1814, Pius issued the bull *Sollicitudo omnium*, by which he restored the order with all the privileges it possessed at the time of its suppression. The vicar-general of Russia, Brzozowski, became thus the first general of the restored order; his successor, Fortis, elected in 1820, again took up his residence in Rome. They opened a novitiate at Rome on Nov. 11, 1814, and received in 1824 the direction of the *collegium Romanum*, and in 1836 that of the propaganda. In Modena, Sardinia, and Naples they were restored in 1815, and reinstated in the possession of a part or the whole of the former property of the order, and several new houses were established. They returned to Lombardy in 1837, to Parma and Venice in 1844, and to Tuscany (for a short time) in 1846. The revolution of 1848 endangered their existence in all Italy; mobs attacked their houses in Genoa and Naples, and they were expelled from nearly every state, even from the dominions of the pope. The general found for some time a refuge in England. They returned after the success of the counter revolution in 1849 to most states, except Sardinia and Tuscany, but were again expelled by the revolution of 1859 from Lombardy, Parma, Modena, and the legations. In Naples the principal organ of the Jesuits, the *Civiltà Cattolica* of Rome, was prohibited in 1855 for having censured the government, but in 1858 they received from the latter new marks of confidence. In Portugal, John VI. protested against their restoration; Dom Miguel admitted them by a decree of 1829, but Dom Pedro exiled them in 1834, since which time they have not returned to Portugal. In Spain, Ferdinand VII. in 1815

put them in possession of all their former rights and property. They were banished again during the revolution of 1820, but restored with Ferdinand in 1828. During the civil war, Queen Christina was compelled to suppress the order in Spain in 1835, and in 1840 its last house, at Loyola in Guipuzcoa, was dissolved by order of the provincial regency; but in 1844 they succeeded in establishing themselves again in the Spanish dominions. In France, during the reigns of Louis XVIII. and Charles X., they obtained only toleration, and 8 of their colleges, with about 3,500 pupils, were closed in 1828 by order of the government. The revolution of July, 1830, banished them again "for ever" from France, notwithstanding which they were able to maintain themselves, although in 1845 the chamber of deputies, with only a few dissenting votes, requested the government to have their houses closed. Since the accession of Napoleon III. the number of the members and establishments of the society has considerably increased. The Catholic almanac (*La France ecclésiastique*) for 1859 mentions 61 establishments in 88 dioceses. In the Netherlands, King William I. permitted them to form establishments, and after the separation of Belgium from Holland they increased largely in the former. The government of Austria admitted them into Galicia, which in 1820 was made a separate province of the order. The revolution of 1848 endangered their existence in Austria for a short time, but since 1849 their establishments have been more numerous and prosperous than before. The government transferred to them the direction of 7 of the state colleges, called a Jesuit from Rome to the university of Vienna, and in 1857 gave all the theological chairs of the university of Innsbruck to the order. The conversion of the duke of Anhalt-Köthen to the Roman Catholic church (1825) was followed by the establishment of a mission of the Jesuits at Köthen, which existed until 1848. In the kingdom of Saxony they were expressly excluded from the country by a provision in the constitution of 1831. The events of 1848, which expelled them from so many countries, opened to them a wide field of action in many of the German states, where they were permitted, for the first time since their restoration, to hold missions for 8 or more days. Many of the larger Protestant cities, as Berlin, heard on this occasion the preaching of the Jesuits for the first time. They were allowed to settle in Prussia, and in Westphalia and the provinces of the Rhine they founded within a short time a considerable number of establishments. In 1858 they had, according to the "Illustrated Catholic Almanac" for 1859, 14 establishments with about 700 members. They were recalled to Switzerland as early as 1814 by the government of Valais, which also put them in possession of the former property of the order. In 1818 they founded a college at Freyburg, which soon became one of the most famous institutions of the order, and had numerous pupils (676 in

1845) from nearly every country of Europe. The decision of the grand council of Lucerne, in 1844, to call Jesuits to the chairs of the theological school and to one of the parish churches of the capital, greatly increased the excitement already existing against them in most of the Protestant cantons. Several incursions were made from other cantons to overthrow the local government in order to expel the Jesuits. They were however unsuccessful, and strengthened the separate alliance (*Sonderbund*) which the government of Lucerne had formed with 6 other cantons for the protection of what they considered their sovereign cantonal rights. In 1847 the federal diet demanded the dissolution of the Sonderbund and the removal of the Jesuits; the 7 cantons refused submission to this decree, but the war of the Sonderbund ended in breaking up the alliance and in the expulsion of the Jesuits, who have ever since been forbidden by the federal constitution to return. In England, a rich Catholic, Thomas Weld of Lulworth castle, in 1799 gave to ex-members of the order Stonyhurst, which is still their largest establishment in that country. They conduct at present 8 of the 10 English Catholic colleges (Stonyhurst, near Whalley, Lancashire; Mount St. Mary's, near Chesterfield; and St. Benno's, at St. Asaph), and have several other houses. They have no establishment in Scotland, but in Ireland they have received since 1825 several houses and schools. In Russia, where their college of Polotzk received in 1812 the rank of a university, they lost the favor of the emperor when several young noblemen, who had been their pupils, were received by them into the Roman Catholic church. An imperial ukase of Jan. 1, 1816, closed their establishments at St. Petersburg and Moscow; and another of March 25, 1820, suppressed the order entirely in all Russia and Poland. The United States and the British possessions in America are among the countries where the order grows most rapidly. They are divided into the province of Maryland, having establishments in the dioceses of Baltimore, Philadelphia, Portland, and Boston; the vice-province of Missouri, having houses in the dioceses of St. Louis, Louisville, Cincinnati, Chicago, and Milwaukee; the mission of Canada and New York, having houses in the dioceses of New York, Albany, Buffalo, Quebec, Montreal, London, C. W., and Hamilton; the mission of Louisiana, with houses in the dioceses of New Orleans and Mobile; and the mission of California. Their colleges in the United States are as follows: college of the Holy Cross, Worcester, Mass.; of St. Francis Xavier, New York; St. John's, Fordham, N. Y.; St. Joseph's, Philadelphia; St. John's, Frederick, Md.; Loyola, Baltimore; Gonzaga, Washington, D. C.; Georgetown, D. C.; Spring Hill, near Mobile, Ala.; St. Louis university, St. Louis, Mo.; college of the Immaculate Conception, New Orleans; St. Charles's, Grand Coteau, La.; St. Joseph's, Bardstown, Ky.; St. Xavier's, Cincinnati; Santa Clara, Cal.; in Canada, St.

Mary's college, diocese of Montreal. The number of Jesuits in the United States at the present time (1860) is 650. In Mexico and the states of Central and South America they have sometimes been admitted, sometimes again expelled, their fate being often dependent on the success or defeat of the several political parties. Jesuits also now labor as missionaries in nearly all the non-Christian countries of the world, especially among the Indians of North America, in Turkey, in India, and China.—The order has had since the foundation the following 22 generals, many of whom belong also to its most celebrated names: 1, Loyola, a Spaniard, 1541-'56; 2, Laynez, a Spaniard, 1558-'65; 3, Borgia, a Spaniard, 1665-'72; 4, Mercurian, a Belgian, 1678-'80; 5, Acquaviva, a Neapolitan, 1681-1615; 6, Vitelleschi, a Roman, 1615-'45; 7, Caraffa, a Neapolitan, 1646-'9; 8, Piccolomini, a Florentine, 1649-'51; 9, Gottofredi, a Roman, Jan. 21 to March 12, 1652; 10, Nickel, a German, 1652-'64; 11, Oliva, a Genoese; 1664-'81; 12, De Noyelle, a Belgian, 1682-'8; 13, Gonzalez, a Spaniard, 1687-1705; 14, Tamburini, a Modenese, 1706-'80; 15, Retz, a Bohemian, 1780-'80; 16, Visconti, a Milanese, 1751-'5; 17, Centurioni, a Genoese, 1755-'7; 18, Ricci, a Florentine, 1758-'78, died in 1775; 19, Brzozowski, a Pole, 1814-'20; 20, Fortis, a Veronese, 1820-'29; 21, Roothaan, a Hollander, 1829-'53; 22, Beckx, a Belgian. Among the Jesuits who have been canonized or beatified, the most celebrated are Ignatius Loyola, Francis Xavier, Francis Borgia, Francis Regis, Aloysius Gonzaga, and Stanislas Kostka.—Before the suppression of the order, the Jesuits counted among their members some of the greatest scholars of Europe. The works of Petavius, Sirmond, Tursellini, and Viger in classical literature, and of Tiraboschi in literary history, are still valued and used. Among the theologians and pulpit orators, Bellarmine, Pallavicini, and Bourdaloue are especially distinguished. Since the restoration, Passaglia (who, however, left the order in 1858) and Perrone have gained the reputation of being among the principal theological writers of the Roman Catholic church, and Ravignan and Félix in France and Roh in Germany have been counted among the greatest Catholic pulpit orators. The most extensive literary work undertaken by the order is the *Acta Sanctorum* (Bollandist), commenced in the 17th century and still continued. The order publishes at present 8 periodicals: the *Civiltà Cattolica*, a semi-monthly magazine, at Rome (which has the largest circulation of any theological publication of Italy); the *Précis historiques et littéraires*, a semi-monthly, at Brussels; and the *Études théologiques*, a quarterly, at Paris. Several charges of complicity in the murder of princes have been brought against the Jesuits, some of which have been abandoned by all impartial historians, while none have been proved. These charges are closely connected with the doctrine of the rightfulness of tyrannicide, which has been defended by several writers of the order. It is gen-

erally admitted that 14 Jesuits, viz., Sa, Tolet, Valentia, Delrio, Salas, Mariana, Heissius, Suarez, Lessius, Becan, Gretser, Tanner, Castro-Paolo, and Escobar, have maintained it. But on the other hand, it is alleged that this doctrine was one very common among the Roman Catholic theologians, and that even Thomas Aquinas taught it; that more than 60 Jesuits have written against it; and that those Jesuits who admit it, confine it to a few exceptional cases, and allow it to be committed not by an individual, but only by a nation. Acquaviva, general of the society, by a decree dated July 6, 1610, forbade any member publicly or privately to uphold the doctrine that it is lawful for any one under any pretext of tyranny to attempt the life of any ruler. On other points of ethics members of the order have been accused even by certain Catholic writers of unsound principles, and some of the writings of Jesuits have been on this account censured by Rome. Concerning this point the defence presents the same arguments as on the preceding, viz., that none of the censured doctrines were peculiar to or shared by the whole order. A passage in the constitution of the order: *Vivum est nobis in Domino, excepto expresso voto quo societas summo pontifici pro tempore existenti tenetur, ac tribus aliis essentialibus paupertatis, castitatis, et obedientie, nullas constitutiones, declarationes, vel ordinem ulum vivendi posse obligationem ad peccatum mortale vel veniale inducere, nisi superior ea in nomine Domini nostri Jesu Christi, vel in virtute obedientie juberet*, has often been and is still construed by some writers as if it gave to the superiors of the order the right of obliging their inferiors to commit a sin. But the Jesuits have proved this to be a mistranslation of the Latin and in conflict with others of their rules; the true sense of the passage being, that none of the rules of the order so bind the members that the non-observance by itself involves a sin, but that a sin is committed only when a member violates a special order of the superior. Several Protestant historians of note, as Ranke ("History of the Popes") and Reuchlin ("History of Port Royal"), who in the first editions of their works had followed the former interpretation, have changed their view in subsequent editions, and pronounced the interpretation which the order itself gives of it the true one.—Among the most important works on the history of the Jesuits are: *Historia Societatis Jesu*, from 1540 to 1625, by Orlandini, Sacchini, Passinus, and other members of the society; Wolf (adverse to the Jesuits), *Allgemeine Geschichte der Jesuiten* (4 vols., Leipzig, 1808), valuable for its complete bibliography; Crétineau-Joli, *Histoire religieuse, politique et littéraire de la compagnie de Jésus* (6 vols., Paris, 1844-'6); Gioberti (a Catholic priest adverse to the Jesuits), *Il Gesuita moderno* (5 vols., Lausanne, 1847); A. Steinmetz, "History of the Jesuits" (8 vols., London, 1848); Abbé Guettée (Gallican, adverse to the order), *Histoire des Jésuites* (3 vols., Paris, 1858-'9). See also the "Institute of the Society of

Jesus, approved by the Holy See," "Decrees of the General Congregations," and "Ordinances of the Superiors General," all which have been published; "Life and Institute of St. Ignatius Loyola," by Bartoli; *Documents authentiques*, &c., by Caré de la Charie (Paris, 1827); and Ravnigan's *L'existence et l'institut des Jésuites* (Paris, 1844), and *Clément XIII. et Clément XIV.* (2 vols. 8vo., 1854).

JESUITS' BARK. See CINCHONA.

JESUS CHRIST (*Ἰησοῦς*, the Greek form of the Hebrew *Jeshua* or *Joshua*, salvation; *Χριστός*, the Greek translation of the Hebrew *Messiah*, the anointed), the founder of the Christian religion, born in Bethlehem, a city of Judæa, in the 4th year, as is supposed, before the Christian era, crucified on Calvary, near Jerusalem, probably in the 34th year of his age. The 25th of December has been received and commemorated by the church in the festival of Christmas from the 4th century as the day of his birth, though this date was previously unsettled, and the opinions of the learned have always varied concerning it. His genealogy is traced through David from Abraham by St. Matthew, and from Adam by St. Luke; the two pedigrees are after David entirely different, and the discrepancies have been variously explained by commentators. His mother Mary was the betrothed of a carpenter named Joseph; an angel announced to her: "The Holy Ghost shall come upon thee, and the power of the Highest shall overshadow thee;" she was found with child of the Holy Ghost, and her husband knew her not till she had brought forth her first-born son, who was named Jesus. Joseph and Mary resided in Nazareth, an obscure little town, whence they went up to Bethlehem to be taxed. It was there that the days were accomplished that she should be delivered, and the child was born in a manger, the inn being full. His birth and Messianic dignity were revealed by angels to shepherds tending their flocks by night in the field, and they went in haste to Bethlehem to greet the babe. After 8 days he was circumcised; after 33 days he was presented in the temple at Jerusalem, when the aged Simeon took him in his arms, and blessed God that he had lived to see the Saviour; and soon after his birth, while his parents yet remained in Bethlehem, three wise men (according to the ecclesiastical tradition, three kings) came from the East, guided by a star, and fell down before the young child, and worshipped him, and gave unto him gold, and frankincense, and myrrh. Their inquiries in Jerusalem had excited the suspicion of King Herod, who commanded them to bring him word if they found the child. But the parents of Jesus, warned in a dream, fled with him to Egypt (where, according to the legends, they dwelt in Hermopolis, and in the house of a priest named Aphrodisius). Meantime Herod, to whom the wise men had not returned, and who feared the loss of his throne if the Messiah were acknowledged, in order to make his destruction certain, gave

orders that all the male children in and near Bethlehem under two years of age should be put to death. After the death of Herod, Jesus returned with his parents to Nazareth. Of his early youth nothing more is known, except the summary statement of Luke that he waxed strong in spirit, filled with wisdom. When he was 12 years old his parents took him with them to Jerusalem to the feast of the passover. As they returned, he tarried behind without their knowledge; they retraced their steps in search of him, and after three days found him in the temple at Jerusalem, sitting in the midst of the doctors, hearing them and asking them questions, and astonishing them by his understanding and his answers. He returned to Nazareth with his parents, and was subject to them. Of the following 18 years, till the commencement of his public ministry, the canonical Gospels give no account. Various suppositions have been made to fill this gap in the narrative, as that he associated with learned Jews, and studied the Greek authors; that in his 14th year he went with John the Baptist to Egypt, and was instructed for 16 years by Egyptian philosophers; that he was educated in the school of the Essenes (which is the oldest opinion); that he was a Nazarite; and that he belonged to the sect of the Sadducees. None of these hypotheses, however, has been generally received. It is more probable that he followed the occupation of a carpenter, and, as the eldest son of the family, provided for its maintenance after Joseph's death. The apocryphal Gospels give full narratives of this period, concerning which the four evangelists are silent. His appearance as a public teacher was heralded by John the Baptist, who warned and admonished the people, exhorting them to repentance, baptizing them in the Jordan, and announcing the approach of one mightier than himself, who should baptize with the Holy Ghost and with fire. It was in his 31st year that Jesus came to the Jordan at Bethabara unto John, was recognized by him as the Messiah, and was baptized by him at his own command; and as he went up from the water a voice from heaven said: "This is my beloved Son, in whom I am well pleased." The events of his ministry, which is usually believed to have occupied about 3 years, are related by the evangelists, and have been arranged in chronological order (not in all cases with certainty) in harmonies of the Gospels. The public consecration by baptism was followed by the temptation and fast for 40 days in the wilderness. He then selected the first of his 12 disciples, afterward called apostles, and began to promulgate his doctrines, and to perform miracles. At a marriage in Cana of Galilee he changed water into wine to supply the guests. He attended a feast of the passover at Jerusalem, and by his mighty works made many believe in his name. Passing from Judæa to Galilee by way of Samaria, he revealed himself to a Samaritan woman at Jacob's well in Sychar. Again in Cana, he

cured by a word the son of a nobleman of Capernaum; in Nazareth, he healed a demoniac and other sick persons; on the sea of Galilee he lulled a tempest, and on the shores of the sea he performed many wonderful cures; and, as the number of those seeking help from him increased, he gave to his 12 disciples the power to heal diseases, and sent them forth to preach the gospel. It was probably on another journey through Galilee that he delivered before a numerous concourse the sermon on the mount, in which he set forth the spirit of his doctrine, the conditions of participation in the kingdom of God, and gave in the Lord's prayer an example opposed to the long prayers of the Pharisees. He afterward healed the palsied son of a centurion of Capernaum, and restored a widow's son at Nain to life. While performing such deeds as exemplifications and certificates of his doctrines, the second feast of the passover came. He attended it, and gave occasion for the hostility of the Pharisees by healing on the sabbath day at the pool of Bethesda a man who had suffered from an infirmity for 38 years. Leaving Jerusalem, a great crowd gathered about him on his way, and he miraculously fed 5,000 persons with five loaves and two small fishes. His numerous miraculous cures, and the increasing number of believers in him as the Messiah, deepened the enmity of the Pharisees, who sought to do violence to him. He therefore left Judæa, and passed along the coasts of Tyre and Sidon, repeating his miracles. The transfiguration, the foreshadowing of his own sufferings, and the choice of 70 disciples, whom he sent two by two into all the places which he intended to visit, preceded his journey to Jerusalem to the third passover. It was during this festival that he scourged the money changers from the temple. He departed thence to Perea; at Bethany he raised from the dead Lazarus, the brother of Martha and Mary; on his way toward the capital he cured at Jericho blind Bartimeus, and cursed the barren fig tree at Bethphage; made his entry into Jerusalem, riding on an ass, and was received in triumph by the people, whom he instructed concerning his passion, death, and resurrection. He returned to Bethany, declared the legitimacy of tribute to the Romans, foretold the fate of Jerusalem, and amid the hostile efforts of the Pharisees proclaimed his authority as the Messiah. Again entering Jerusalem, he celebrated the passover with his disciples, and at the feast he washed their feet, as a lesson of love and humility. He announced that on that night one of them should betray him, and designated Judas Iscariot as the traitor; instituted the Lord's supper; and with exceeding sorrow prayed in the garden of Gethsemane. Thither Judas came, at the head of an armed band, and betrayed to them the object of their search by saying: "Hail, master!" and kissing him. While his disciples fled, Jesus freely surrendered himself. He was brought before the court of the sanhedrim; and as he did not deny that he was the

Christ, the Son of God, he was adjudged guilty of blasphemy, and condemned to death. He was brought thence, on the charge of sedition, before the tribunal of Pontius Pilate, the Roman procurator of the province, who was induced by the clamor of the people to condemn him contrary to his own judgment. A scarlet robe and a crown of thorns were put on him in mockery, and he was led away to be crucified. At Golgotha or Calvary, vinegar mingled with gall was offered him to drink. He was crucified between two thieves, on a cross bearing the inscription in Hebrew, Greek, and Latin: "Jesus of Nazareth, the King of the Jews." He committed his mother to his beloved disciple John, according to which evangelist his last words were: "It is finished." At his death the sun was darkened, the earth did quake, and the veil of the temple was rent in twain from the top to the bottom. In the evening came Joseph of Arimathea, a disciple of Christ, and begged the body and buried it. After three days occurred the resurrection of Jesus; he appeared to his 11 remaining disciples, and to many others; remained with them 40 days, instructing and blessing them; and then visibly ascended to heaven. His last charge to his disciples was to go and teach all nations, baptizing them in the name of the Father, and of the Son, and of the Holy Ghost.—Beside the Gospels of Matthew, Mark, Luke, and John, and the commentaries on them, the following are among the more important works on the biography of Christ: Fleetwood, "Life of Christ" (London), and lives of Jesus by Neander (1817; 4th ed. 1845), Paulus (1838), Hase (1839; 8d ed. 1840), Ammon (1842-'5), Lange (1844), Hofmann (1852), and De Ligny. (See CHRISTIANITY.)

JET, a variety of lignite, resembling cannel coal, but harder, of deeper black, and of more brilliant lustre. It is found in detached pieces in tertiary clays along the coast of Yorkshire, England, and in various places on the continent of Europe. From its susceptibility of taking a fine polish and its intense blackness, it has been largely used for mourning articles of ornament, as buttons, crosses, ear rings, &c.

JETER, JEREMIAH B., D.D., an American Baptist clergyman, born in Bedford co., Va., July 18, 1802. He entered the ministry in his native county in 1822, and removed in 1827 to the "Northern Neck" of Virginia, where he was pastor of the Maratico church in Lancaster co., and of the Nicomico church in Northumberland co. In 1836 he became pastor of the first Baptist church in Richmond, Va., and in 1849 accepted an invitation from the second church in St. Louis, Mo. In 1852 he returned to Richmond to fill the pulpit of the Grace st. Baptist church. He is an earnest, clear, and logical preacher, and exerts a wide influence in his native state. Beside various minor treatises, sermons, and contributions to periodical literature, he has published a "Memoir of the Rev. Abner W. Clopton," the "Life of Mrs. Henrietta Shuck," a "Memoir of the Rev. Andrew Broadus," the

"Christian Mirror," and a controversial volume, entitled "Campbellism Examined" (1855).

JETSAM. See FLOTSAM.

JEW, THE WANDERING, according to the popular legend, born of the tribe of Naphtali, 7 or 8 years before the birth of our Saviour. The son of a carpenter or shoemaker, he early manifested his perversity by running away from his father to accompany the three wise men or kings who were guided by a star to the manger at Bethlehem. Returning to Jerusalem, his stories of what he had seen, and of the rich presents which the eastern monarchs conferred on the child, saluting him as king of the Jews, were the cause of the massacre of the innocents. He was employed as a carpenter on the cross destined for the passion of Christ, who passed his workshop on the way to Calvary, himself bearing the cross. The soldiers begged him to allow the Saviour to enter for a few moments' rest, but he not only refused, but offered insult. According to another legend, he was a shoemaker, sitting at his bench as the Saviour passed, and refused to permit him to sit for rest. Then Christ bade him to traverse the earth, without possibility of stopping or resting, until the second coming. In his ceaseless wanderings from that time he has in vain sought death amid all the greatest dangers and calamities to which human life is subject. The legend first appears in the chronicle of Matthew Paris in the 13th century, where the wandering Jew is called Cartaphilus, and said to have been a servant of Pilate. His name in the later forms of the legend is Ahasuerus. In the 16th and 17th centuries there were several impostors claiming to be the wandering Jew. The legend has furnished the subject of long poems by Schubart and Mosen; of a tragedy by Klingemann; of a mystico-philosophical drama by Edgard Quinet; of prose romances by the Rev. George Croly ("Salathiel"), Eugène Sue (who adds to it a wandering Jewess, Th. Oelckers, and David Hoffman of Baltimore ("Chronicles selected from the Originals of Cartaphilus the Wandering Jew," London, 1856); of the poem of the "Undying One," by Mrs. Norton; and of many short lyrical pieces.—See Doré, a volume of designs illustrating the legend, with a poem by Pierre Dupont (Paris, 1856), and Grasse, *Die Sage vom ewigen Juden* (Dresden, 1844).

JEWEL, or JEWELL, JOHN, an English bishop, born in Buden, Devonshire, May 24, 1522, died at Monkton Farleigh, Wiltshire, Sept. 23, 1571. He finished his education at Oxford, where for some years he acted as tutor. He early imbibed the principles of the reformation, and labored assiduously to disseminate them among his pupils; but he did not make a public profession of Protestantism till after the accession of Edward VI. His zeal in supporting the new faith led to his expulsion from Oxford in the reign of Mary. In 1554 he fled to the continent to escape imprisonment, and at the invitation of Peter Martyr went to Strasbourg, where he for some time assisted that learned man in conducting a

collegiate institution which he had established in his own house. On the death of Mary, Jewel returned to England, and was one of the 16 divines appointed by Elizabeth to hold a controversy at Westminster with a similar number of Catholics. In 1559 he was placed on the commission deputed by the government to extinguish Catholicism in the western dioceses of England, and on Jan. 21, 1560, was consecrated bishop of Salisbury. He was a voluminous controversial writer. The most famous of his works is his *Apologia Ecclesie Anglicanae* (1562), which was so esteemed by Elizabeth that she ordered a copy of it to be chained in every parish church of England and Wales.

JEWS. See HEBREWS.

JEWS-HARP, a small musical instrument, consisting of an iron frame, somewhat in the form of a lute, to the wide or circular part of which is fastened an elastic steel tongue, bent at the outer or free extremity to a right angle. The frame is placed between the teeth, and the sound is produced by the vibrations of the metal tongue when set in motion by the fingers. The action of the breath upon this tongue in different degrees of force produces a modulated air. The jews-harp was considered scarcely more than a child's toy, until the performances of Karl Eulenstein in the early part of the present century developed its resources. The limited scale which is peculiar to the instrument was obviated by employing a series of harps of different sizes. The name has been supposed to be a corruption of the French *jeu trompe*, and, with more probability, to be identical with jaws' harp, because it is held between the jaws when played upon.

JHANSI, a British province in the territory of Bundelcund, Hindostan, between lat. 24° 55' and 25° 48' N., long. 77° 53' and 79° 31' E.; area, about 2,580 sq. m.; pop. 200,000. It was annexed to the British possessions in 1854, on the death without lineal heirs of the rajah Baba Gunghadar Row.—JHANSI, the principal town in the above province, is situated on the route between Agra and Saugor, 142 m. S. from Agra, 180 m. N. from Saugor, and 740 m. N. W. from Calcutta. It is a walled town, surrounded by fine groves, and overlooked by a castellated palace of the former rajahs, built on the summit of a high rock and surmounted by a large round tower. The streets are remarkably clean and orderly. A considerable trade is carried on with the cities of the Deccan and the Doab, and there are manufactories of native weapons. On June 4, 1857, a mutiny of native troops took place here, and 67 Europeans, about half of whom were women and children, were massacred at the instigation of the ranees or chieftainesses of Jhansi. The ranees put herself at the head of the rebels, clad in mail, and during the rest of her career led her forces with masculine valor and ferocity. During Sir Hugh Rose's campaign in Bundelcund in 1858 a body of mutineers under her command shut themselves up in Jhansi, where they were besieged by Rose, March

25. After a relieving force under Tantia Topce had been defeated, the city was stormed on April 2, 8,000 rebels being killed. The ranece escaped to Calpee, was pursued, and retired thence to Gwalior, in the storming of which place, June 17, she was killed by a bullet. The natives burned her body to prevent it from falling into the hands of the British.

JIOARAL, a name applied throughout Spanish tropical America to tracts of ground covered with the *jiara* or calabash tree. This tree in size and shape resembles the apple tree of northern latitudes, and frequently covers large areas of ground to the exclusion of all other kinds of vegetation. Its fruit is covered with a woody rind, which, when cleared of its skin and pulp, is worked into shape for drinking vessels and similar purposes.

JIDDAH, DJIDDAH, or JEDDAH, a town of Hejaz in Arabia, on the Red sea, 65 m. W. from Mecca; pop. estimated at 20,000. It is well built on sloping ground and surrounded by a wall. The streets are clean for an eastern town, and the houses are generally constructed of stone or madrepora; but the suburbs which surround the walls are mere collections of wretched huts inhabited mostly by Bedouins. The principal buildings are the governor's residence, the custom house, a number of mosques of very little architectural pretension, some large and handsome khans, and a small castle mounting 9 or 10 guns. A rude stone structure beyond the walls is venerated by the Moalems as the tomb of Eve. Two parallel low walls over the exact place of sepulture are supposed to mark the outlines of the body of the *Sittna Hawwa*, the "mother of mankind," who by this rule must have measured 20 paces from head to waist and 80 from waist to heel. The surrounding country is arid and barren; water has to be collected in cisterns, and all necessities are brought from a distance. Jiddah, however, has a large trade, being the port of Mecca, and one of the principal commercial emporiums of Arabia. Corn, rice, butter, tobacco, oil, musk, civet, incense, spices, teak, coconuts, muslins, shawls, clothing, and slaves are the chief imports; and coral, dates, coffee, Mecca balm, Egyptian cottons, matchlocks, cutlery, hardware, leather, and mirrors are the most important exports. The trade is mainly with Egypt, Abyssinia, India, China, Mozambique, and the Malay archipelago. Many thousands of pilgrims arrive here annually on the way to Mecca, and during their stay the town presents a remarkable scene of bustle and confusion, as the crowd of visitors is swollen by the influx of great numbers of merchants from the surrounding country. Nearly all the inhabitants are foreigners; the families of a few officials connected with the law or religion are almost the only native residents. A number of British and French merchants have settled here, and each of those nations has a consul at the port. Jiddah was formerly governed by a pasha appointed directly by the grand seignor,

and afterward by the pasha of Egypt; since 1840 it has been under the protectorship of the grand seignor. On June 15, 1858, the Mohammedans committed an unprovoked massacre of 45 of the Christian inhabitants, among whom were the British consul and the French consul and his wife. The survivors, 23 in number, were saved by the governor of the place and by Capt. Pullen of her Majesty's ship *Cyclops*, which was then in port. The origin of the difficulty was a dispute with the British concerning the ownership of an Indian vessel. At the request of the outraged powers Namik Pasha with 800 men was sent from Mecca to preserve order; but no satisfactory reply having been given to a demand for the punishment of the murderers, the town was bombarded by the *Cyclops* for 8 days (July 25 and 26, and Aug. 5). On Aug. 6, 11 of the culprits were hanged, and others were sent to Constantinople. The Turkish government subsequently consented to grant pecuniary damages to the survivors of the massacre.

JIHOON, GIHOON, AMOO, or AMOO DARIA, the Oxus of the ancients, a large river of Independent Tartary. Its principal source is a mountain lake in the range of the Bolor Tagh. It flows for some distance S. W., and then turning N. W. continues its course in this direction to the sea of Aral, into which it discharges, after having traversed the territories of Badakshan, Bokhara, and Khiva, thrown off various branches, and received numerous affluents. Its entire course is about 1,100 miles. Its mouths form a number of islands. One of its branches formerly flowed into the Caspian sea.

JIQUILISCO, BAY OF, sometimes called bay of Espiritu Santo, an arm of the Pacific, on the coast of San Salvador, Central America. Its entrance is in lat. 13° 8' N., long. 88° 36' W. It has a bar at its mouth carrying 10 feet of water at low, and 17 feet at high tide. Within this the water ranges from 4 to 8 fathoms. The bay is of irregular form, and sends out a number of *esteros* or creeks for long distances in the low grounds which surround it. This bay was made a port of entry in 1846, under the name of Puerto del Triunfo. It has every capacity for ordinary commercial purposes.

JIQUILITE, the aboriginal name of the native or indigenous indigo plant of Central America, the *indigofera disperma* of Linnæus. It differs widely in appearance from the exotic indigo plant of India, and produces indigo of a superior quality. It grows luxuriantly on all kinds of soil. The land is slightly broken up, and the seed is sown broadcast, in the months of February and April. By the 1st of August it attains the height of from 5 to 6 feet, and may then be cut. The product of the second year is however better than that of the first. The process of manufacture is simple and easy, and is carried on by the local proprietors individually. In Central America, the republic of San Salvador produces by far the largest quantity, averaging about 10,000 bales, valued at \$1,000,000, annually.

JO DAVIESS, a N. W. co. of Ill., bordering on Wis., and separated from Iowa by the Mississippi river; area, 650 sq. m.; pop. in 1855, 24,104. The surface is moderately uneven, and the soil is fertile and watered by numerous small streams. The county abounds in lead ore, and also contains copper. The agricultural productions in 1850 were 220,615 bushels of Indian corn, 207,288 of wheat, 250,386 of oats, 20,029 tons of hay, and 168,138 lbs. of butter. There were 15 grist mills, 7 saw mills, 2 newspaper offices, 14 churches, and 2,485 pupils attending public schools. The Mineral Point and Illinois central railroads pass through the county. Named in honor of Col. Joseph Hamilton Daviess, who fell at the battle of Tippecanoe. Capital, Galena.

JOAB, a Hebrew warrior, son of a sister of King David (1 Chron. ii. 16), and "captain of the host" (generalissimo of the army) during the greater part of David's reign, died in 1015 B. C. In the reign of Saul he accompanied David on his wanderings in the southern part of Palestine and its vicinity, and after the death of that king he defeated the troops of Abner, who opposed the succession of David, and whom he treacherously assassinated after he became reconciled to David. His valor in the assault on the fortress of Mt. Zion, held by the Jebusites, gained him the chief command of the army of all Israel, and he had the principal merit in the conquests of his master. He adhered faithfully to the king during the revolt of Absalom. When, in order to conciliate the powerful rebellious party, the command of the host was given to Amasa, who had been Absalom's general, Joab soon rid himself of this rival by murdering him. Shortly before the death of David he participated in the unsuccessful demonstration in favor of the natural heir Adonijah, and afterward fled for refuge to the altar, where he was put to death by command of the new king Solomon. His brothers Abishai and Asahel were also conspicuous as military leaders in the earlier part of the history of David.

JOAN, PORZ, a fictitious personage of the female sex, who was for a long time supposed to have succeeded Leo IV. in the papal chair in 855, and to have occupied it over two years. The first who mentions her is Marianus Scotus, monk of the abbey of Fulda in the 11th century. According to Martinus Polonus, a Cistercian of the 13th century, Joan was a native of Mentz, who came with an English lover to Rome in the disguise of a man, and, having become proficient in sacred and profane learning, was chosen to the papacy, under the name of John VIII., no suspicion being had of her sex. She was seized with the pains of labor one day while passing in procession to the Lateran basilica, and died in the street. This story was interpolated into the work of Anastasius, who lived at the time of her supposed reign, and some critics contend that it is even wanting in the earlier copies of Martinus Polonus. It was completely disproved by Blondel in his *Fami-*

lier éclaircissement de la question si une femme a été assise au siège papal entre Léon IV. et Benoît III. (Amsterdam, 1649); and it is now generally admitted that no such person as Pope Joan ever existed, and that the immediate successor of Leo IV. was Benedict III.

JOAN OF ARC. See ARC, JOAN OF.

JOANNES, VICENTE. See JUANES.

JOANNES, or MARAJO, an island of Brazil, at the junction of the Amazon and Tocantins, forming part of the province of Para, about 120 m. long, and from 60 to 80 m. broad; pop. 20,000. The surface is almost on a level with the sea, and during the rainy season is nearly one vast marsh. Much of it is under forest, but the greater portion is *campo*, or open country, and is covered with coarse tall grass. Vast herds of cattle are reared upon this island, and myriads of wild ducks breed in the swamps.

JOB, BOOK OF, so called from the name of the patriarch whose history it contains, one of the canonical books of the Old Testament. According to the narrative contained in the introductory chapter, Job dwelt in the land of Uz, probably in the northern part of Arabia Deserta, was a man of eminent probity and piety, blessed with great riches in camels, sheep, and cattle, and highly reputed among the people on both sides of the Euphrates. But God permitted Satan to put his virtue to the test. His oxen were stolen by the Sabeans, his sheep were consumed by fire from heaven, his camels were carried away by the Chaldeans, and his sons and daughters perished amid the ruins of a house overthrown by a whirlwind. He bore these calamities without repining, saying: "The Lord gave, and the Lord hath taken away; blessed be the name of the Lord." Then Satan was permitted to afflict his person. He was smitten with a terrible disease; his wife urged him to "curse God and die;" and 3 friends, Eliphaz, Bildad, and Zophar, informed of his misfortunes, came in to console him. The book consists chiefly of discussions, in sublime but often obscure poetical diction, between Job and his consolors on the question: Why do the righteous suffer? The burden of their argument, which is afterward taken up with some variation by another friend, Elihu, is that calamities are in proportion to sins, and that Job must have been guilty of great transgressions, or he would not be made to suffer so severely. They therefore admonish him to confess and repent of the guilt of which by his misfortunes he stands convicted. Job maintains in opposition that his afflictions are greater than his faults, that upright men are sometimes extremely unfortunate, that God's justice does not always appear in the government of the world, and that he sometimes seems to act from mere will and pleasure as absolute Lord. At the conclusion the Lord himself addresses Job out of a whirlwind, condemning both his presumption in daring to criticize the Omnipotent, of whose ways he knows so little, and the insincerity of his friends, who endeavored to vindicate Provi-

dence by accusing an innocent sufferer. Job acknowledges his nothingness, and is amply rewarded for his constancy. Of the author of this book nothing is known, and its age is variously estimated. Formerly it was generally believed to be one of the most ancient books of the canon, and to have been originally written in old Hebrew or perhaps in Arabic. Some more recent expositors, as Gesenius, Umbreit, and De Wette, place it in the time of the Chaldean exile. Schlottmann refers it to the age of Solomon. Among the latest German commentaries are those of Hirzel (1838), Stickel (1842), Magnus (1851), Schlottmann (1851), and Studer (1858). There are English translations and commentaries by J. M. Good (1812), Fry (1827), Prof. G. R. Noyes, (Boston, 1838), and Prof. Conant (New York, 1857). A French translation with a historical introduction has been published by Renan (Paris, 1859).

JOCHMUS, ALBRECHT, a German soldier, born in Hamburg in 1808, took part in the Greek war of independence, and held high military positions under Gen. Church and afterward under King Otho. At the recommendation of the English ambassador in Athens, Sir Edmund Lyons, he joined in 1835 the Anglo-Spanish legion under Gen. De Lacy Evans; and, distinguishing himself on various occasions, he was eventually promoted by Espartero in June, 1837, to the rank of chief of the general staff of the army of the Asturias. Under the auspices of Lord Palmerston he afterward took an active part in the Egyptian war, and especially in the capture of St. Jean d'Acre, and was at the head of the united Turko-Anglo-Austrian army from Dec. 1840, until the close of the campaign, Feb. 16, 1841. He was afterward employed in the ministry of war in Constantinople until 1848, when he returned to Germany. In 1849, after the withdrawal of Gagern, he was appointed by the archduke John, vicar of Germany, minister of foreign affairs and of the navy. After the dissolution of the Frankfort parliament he again visited Constantinople. In 1854 he made a journey around the world, in the course of which he spent some time in the United States. In May, 1859, he received the commission of lieutenant field-marshal in the Austrian army, and was attached to the staff of the emperor.

JOEL, the 2d of the 12 Hebrew minor prophets, son of Pethuel, supposed by some critics to have prophesied in the reign of Uzziah, between about 800 and 780 B. C. The book of Joel begins with announcing an extraordinary plague of locusts accompanied by drought. This is followed by promises of the divine forgiveness, of the restoration of the land to its former fertility, of spiritual blessings, and of the divine vengeance on the enemies of the chosen people. His descriptions rank, in sublimity, vividness, and purity of style, among the finest passages of Hebrew poetry. Among the best commentators are Credner (1831), Meier (1841), and Hitzig, *Die zwölf kleinen Propheten* (2d ed. 1852).

JOGUES, ISAAC, a French missionary among the North American Indians, born in Orleans, Jan. 10, 1607, killed at Caughnawaga, N. Y., Oct. 18, 1646. He became a Jesuit at Rouen in 1624, and, after some years passed in teaching and study, was ordained in 1636. At his own request he was immediately sent to Canada. He remained a short time at Miscon, visited Quebec, preached to the Hurons, and in 1642, in company with Father Charles Raymbaut, crossed Lake Huron and founded a mission among the Chippewas in Michigan. In the summer of the same year he proceeded to Quebec to obtain supplies. On his return through New York he fell into the hands of a party of Mohawks, who cut off one of his thumbs, tore out his finger nails, and put him to other frightful tortures. He remained among them, partly as a slave, partly as a missionary, until the summer of 1643, when he made his escape to the Dutch settlement of Rensselaerswyck (Albany), and was conveyed thence to New Amsterdam. He was hospitably entertained here, and in November sailed for Europe, but was shipwrecked on the coast of England, and lost all he possessed. He finally reached France, where he was treated with great consideration, and invited to court. Returning to Canada, he travelled to the Mohawk country in May, 1646, in the capacity of an ambassador to conclude a treaty between that people and the French. Ascending the Sorel and passing through Lake Champlain, he reached Lake George, which he named Lake Saint Sacrement, and thence descended the Hudson to Fort Orange. Having ratified the peace at the Indian town of Onewyure, he returned to Quebec, and after a few days' rest set out for the Mohawks again, this time as a missionary. Immediately on his arrival he was seized as a sorcerer, the savages attributing to him a contagious fever which was then raging among them; and after slices of flesh had been cut from his arms and back, he was killed, and his body thrown into the river. His letters have been published in the collections of the New York historical society (II., iii.), and a description of the New Netherlands from his pen will be found in the "Documentary History of New York." He also left a memoir of René Goupil, one of his companions in the Huron mission, and a journal published by Alegambe in his *Mortes illustres* (Rome, 1667).

JOHANNA ISLAND. See ANZOON.

JOHANNES SECUNDUS, a Dutch poet, whose true name was JOHANNES EVERARD, born at the Hague in 1511, died in Utrecht in 1586. He gained while young the degree of LL.D., and had also some celebrity as a sculptor and painter. After travelling in Spain and Italy he accompanied Charles V. on his expedition to Tunis. His poems are written in purely classical Latin, and the *Basia*, or "Kisses" (Utrecht, 1539), have been ranked by his admirers with the lyrics of Catullus. They have been repeatedly translated into the principal European languages; and an edition, with translations by different

English scholars and with notes, was published by Bohn (London, 1858). His *Opera Poetica*, consisting of elegies, odes, epigrams, and other poems, were published by his brothers, the poets Nicolaas Gaudius and Andreas Marius (Paris, 1541).

JOHANNISBERG, a small village of Germany, in the duchy of Nassau, on the E. bank of the Rhine, 12 m. W. from Mentz; pop. 884. The vineyards in its vicinity are celebrated for producing the finest of the Rhenish wines, which derives its name from this hamlet. Near it is the chateau of Johannisberg, which in 1816 was given by the emperor of Austria to Prince Metternich. In 1848 it was declared national property, but afterward restored to the Metternich family, who, however, since 1851, have been bound to pay taxes to the duke of Nassau. The wine raised on the domain which belongs to the chateau is superior to that of the village of Johannisberg.

JOHANNOT, CHARLES HENRI ALFRED, a French artist, born in Offenbach, Hesse-Darmstadt, March 21, 1800, died in Paris, Dec. 7, 1887. He was taken to Paris when a child, and, having shown considerable talent as an engraver, in 1831 he attempted painting, and achieved a flattering success by his "Shipwreck of Don Juan" and "Cinq Mars." He attracted the notice of Louis Philippe, who gave him several commissions, and was rising into eminence as a painter of history when his death occurred. As a designer of vignettes he is well known by his illustrations for the French editions of Byron, Scott, and Cooper.—TONY, brother of the preceding, and an artist, born in Offenbach, Nov. 9, 1803, died in Paris, Aug. 4, 1852. He was a less successful painter than his brother, but in making designs for vignettes he displayed much facility and liveliness of invention. Among his most familiar illustrations are those for "Werther," Molière's works, "Gil Blas," the "Vicar of Wakefield," Sterne's "Sentimental Journey," "Jerome Paturot," and George Sand's romances.

JOHN, king of England, 8d sovereign of the house of Plantagenet, and 4th son of Henry II. and Eleanor of Aquitaine, born in Oxford, Dec. 24, 1166, died Oct. 19, 1216. The surname of Lackland (*sans-terre*), by which he is often mentioned, was popularly given him because of the small possessions that devolved upon him, while the elder sons were all liberally provided for; and it was "the usual appellation of younger sons, whose fathers died during their minority, and who could not possess estates until they were of age to do the feudal services required for them." When he was 7 years old his father bestowed property upon him in England and Normandy. A marriage between him and Alice, eldest daughter of the count of Savoy, was negotiated, but the lady's early death prevented its completion. Henry II. made John lord of Ireland by authority from Urban III., and he went with a large army to that country in March, 1185, accompanied

by his lord deputy, De Lacy, and Gerald Barry (Giraldus Cambrensis), the historian. His behavior was so imprudent, that he became the object of almost universal abhorrence, and his father was compelled to recall him to England at the close of the year. John was Henry's favorite son, but he joined in the repeated rebellions of his other sons; and Henry's death was occasioned by his becoming informed that John's name stood at the head of the list of those barons who had joined Philip Augustus of France against him, though at that very time he was exerting himself to benefit the fortunes of the rebellious prince. Richard I., successor of Henry, bestowed large possessions upon John, then known as earl of Mortmain, but that did not prevent him from behaving as unfraternally as he had behaved unfilially. Richard departed on his famous crusade, intending that, in case he should die childless, his successor should be Arthur, duke of Brittany, son of his brother Geoffrey, John's senior. When Richard on his return became a prisoner in Germany, John sought to render his imprisonment perpetual, and to seize the crown, raising forces, and doing homage to Philip Augustus for such portions of Normandy as he had not surrendered to him. He besieged places in England that were held by Richard's friends, asserted that his brother was dead, and demanded his own recognition as king. He did not succeed, and Richard returned to England in 1194, seized John's castle of Nottingham, and summoned him to take his trial for treason, he being then in France, whither Richard led an army. At the intercession of their mother, the king pardoned his brother, who remained faithful during the rest of Richard's life. Richard bequeathed to John all his dominions, and most of his treasure, and required that homage should be done him. John experienced little difficulty in obtaining possession of England and Normandy, and was crowned at Rouen, April 25, 1199, and at Westminster, May 27. His accession dates from April 6, but he was not regarded as king of England until he had been crowned. According to the rule of descent, the crown belonged to Arthur, duke of Brittany, and the mother of that prince, Constance, persuaded Philip Augustus to espouse his quarrel. Philip seized Anjou, Touraine, and Maine for Arthur, and he was advancing into Normandy, when John arrived there. After some negotiation, war was renewed; but the general of Arthur's forces, finding that the French king was acting for himself alone, effected a reconciliation between John and Arthur, which was of brief duration. The uncle sought to make away with his nephew, who fled back to Philip, accompanied by his mother. In 1200 a peace was made between John and Philip, the latter acknowledging John as Richard's heir, and forcing Arthur to do him homage for Brittany. John paid a large sum of money to Philip, the collection of which caused much trouble in England. The first demand for the privileges

of Magna Charta was made by the barons in May, 1201, and refused, whereupon they declined accompanying him to Paris, which he visited in order to be present at the marriage of his niece with the dauphin, and the king seized their castles. John, who had been compelled to put away his first wife, Avis, because they were related within the forbidden degrees, married Isabella, daughter of the count of Angoulême, Aug. 24, 1200. This lady had been betrothed to Hugh de Lusignan, son of the count of La Marche, who challenged John to combat. John offered to fight by his champion, an offer which Lusignan treated with contempt, declaring that the king's champions were braves. Arthur's claims having been renewed, and insurrections in his favor occurring in Anjou and Maine, Lusignan espoused his cause, and civil war broke out in Poitou and Normandy. Arthur and Lusignan besieged Eleanor of Aquitaine in the castle of Mirebeau, in Poitou, and John hastened to his mother's assistance. On Aug. 1, 1202, he defeated the besiegers in a pitched battle, killing or capturing them all. Arthur, who was but 16 years old, was among the captives. He was imprisoned, and is supposed to have been put to death by his uncle, a belief quite in keeping with John's actions, and in accordance with the spirit of the age. John was accused of the murder of Arthur by Philip Augustus, and was summoned to defend himself before the peers of France. Refusing to attend, the court pronounced judgment, that "whereas John, duke of Normandy, in violation of his oath to Philip his lord, had murdered the son of his elder brother, a homager of the crown of France, and had perpetrated the crime within the seignory of France, he was found guilty of felony and treason, and was therefore adjudged to forfeit all the lands which he held by homage." This decree of forfeiture was vigorously put in force by Philip, whose proceedings were aided by the discontent that prevailed in John's French possessions. In 1203 nearly all those possessions except Guienne were taken by Philip, and John fled to England. He had said, on hearing of Philip's captures of towns: "Let him take them, I will one day recover them; the English sterlings will restore all things." This would have been no idle boast had he been a popular monarch in England; but there he was even more detested than he was in France. The name of Lackland was now revived for him. He had received no aid from the English barons, whom he proceeded to fine frequently and heavily; and the archbishop of York cursed the collectors of the fines, and left England. Those quarrels now began which ended in the granting of the great charter. John became involved in a contest with the church concerning the election of Cardinal Langton to the see of Canterbury, and Pope Innocent III. laid England under an interdict. The king seized the possessions of the church, and banished those who had occupied them. A bull of excommunication was issued in 1209, and John

sought to prevent its promulgation in England, without which it could have no force. His fear was, that Philip of France would attempt the conquest of England, under papal authority, and he maintained relations with some of that prince's neighbors. According to Matthew Paris, he even sought an alliance with a Mohammedan ruler in Spain, who had been very successful in his wars with the Christians. John is reported to have offered the English crown to the Moor, and to turn Mussulman himself. Strange as this story may appear, it is by no means improbable. John was on his mother's side of a race which did not share in the common horror of Mohammedanism; and throughout his whole life his conduct was marked by actions so eccentric, that the plea of insanity has been put forward in his defence, as in the case of the Roman Cæsars. In the mean time, John compelled William, king of Scotland, to acknowledge his supremacy, and effected conquests in Wales, dictating terms of peace to Prince Llewellyn. He also led a great army to Ireland, where he curbed the Norman colonists, divided the English possessions into counties, and established there the laws of England. He was guilty of acts of cruelty that shocked the sentiment of even that ferocious age. Of the captives whom he took in 1202 most of the principal men were starved to death in prison. On an insurrection occurring in Wales, he caused 28 hostages, all young nobles, to be executed. The family of De Braiose having refused to obey some of those ordinances by which he sought to degrade the nobility, and the wife and mother having declared she would not surrender her children to a king who had murdered his own nephew, he caused the father and mother, and their 5 children, to be confined in a room in the old castle of Windsor, until they died of hunger. In 1213 the pope solemnly deposed John, and absolved his vassals from their allegiance. The French king prepared to enforce the sentence, and John assembled a numerous army to defend his kingdom; but as he could not rely upon its fidelity, he listened to the arguments of the nuncio, Pandulph, and resigned his kingdom to the pope, whose vassal he became. This act, so degrading to modern ideas, was not viewed so harshly then, and had many precedents; and the barons themselves acknowledged its validity. Pandulph proceeded to France, where he commanded Philip to put an end to his project of invasion, as England had become the patrimony of St. Peter. That monarch endeavored to turn his preparations to account by planning the conquest of Flanders, but he had ultimately to fight for his own dominions at Bovines. John invaded France, but accomplished nothing, though his fleet had previously defeated that of Philip. Continuing his course of misgovernment, a confederacy was formed against him by the nobility, at the head of which stood Archbishop Langton and the earl of Pembroke, and Robert Fitz-Walter commanded their forces. The king

was compelled to submit to the barons, who forced him to make the grant known as *Magna Charta* (see *MAGNA CHARTA*), June 15, 1215. His submission was but momentary; as soon as he could raise a foreign force, and aided by the pope, who regarded the barons as rebels against himself, he resumed the war with success. The barons applied to France for aid, offering to make the dauphin Louis king of England. Louis entered England at the head of an army. John was about to fight a battle for his crown, when he lost his baggage, treasure, &c., in "the Wash." This affected his mind, and as he was ill at the time of the loss, his sickness so increased that he soon after died. His death was attributed to poison, and also to dysentery, brought on by partaking freely of peaches and new cider. Modern England dates from the reign of John, whose cowardice and imbecility led to the loss of the greater part of the French possessions of his family, and so caused the Norman portion of the inhabitants of the island to regard the English as their countrymen. From the conquest to the beginning of the 18th century England had been ruled by French monarchs, men eminent in council and in the field, but the full success of whose plans would have reduced her to the condition of a province. From the moment she "fell under the dominion of a trifier and a coward," as Macaulay remarks, "her prospects brightened. John was driven from Normandy. The Norman nobles were compelled to make their election between the island and the continent. Shut up by the sea with the people whom they had hitherto oppressed and despised, they gradually came to regard England as their country, and the English as their countrymen. The two races, so long hostile, soon found that they had common interests and common enemies. Both were alike aggrieved by the tyranny of a bad king. Both were alike indignant at the favor shown by the court to the natives of Poitou and Aquitaine. The great-grandsons of those who had fought under William and the great-grandsons of those who had fought under Harold began to draw near to each other in friendship; and the first pledge of their reconciliation was the great charter, won by their united exertions, and framed for their common benefit."

JOHN II., surnamed *Le Bon* (the Good, or rather the Gallant), king of France, the 2d of the Valois family, born about 1319, died in London in 1364. Succeeding his father Philip VI. in 1350, he indulged in such extravagant expenditures to celebrate his accession to the throne that he soon found the royal treasury exhausted, and had to summon the states-general for a grant of money. His first measures were marked by despotism and cruelty. By his orders, the great constable Raoul, count of Eu and Guines, whom he suspected of treacherous dealings with the English, was arrested and beheaded without any form of trial, while his office and property were given to Charles of Lacerda, a Spanish prince. The latter having been mur-

dered at Laigle, Normandy, by Charles the Bad, king of Navarre, a friend of Raoul, King John came unexpectedly to Rouen, where Charles was entertained by the dauphin, made him a prisoner with his own hand, and caused 4 of his followers to be decapitated on the spot. Philip, brother of Charles of Navarre, and the count of Harcourt, uncle of one of the victims, appealed to Edward III. of England for vengeance. The English invaded France at once. King John met one of their armies, under the Black Prince, at Maupertuis, near Poitiers, and, elated by his superiority in numbers, attacked him imprudently, was defeated, Sept. 19, 1356, and carried prisoner first to Bordeaux, and then to London. During his captivity, violent dissensions broke out in France, and the dauphin, who had assumed the regency, was for a while unable to contend against the rising power of the third estate. At the end of 3 years, John tried to regain his freedom by a humiliating treaty with Edward III., which was rejected by the states-general of France. The disastrous peace of Bretigny (1360), however, provided for the liberation of the French king by the sacrifice to the English of some of the best French provinces and the payment of a ransom of 3,000,000 crowns. On his return home, John, coming by inheritance into possession of the duchy of Burgundy, bestowed it on his 4th son, Philip the Bold, as a reward for his gallantry at the battle of Poitiers. Another son, the duke of Anjou, whom he had given as a hostage for the fulfilment of the treaty of Bretigny, having forfeited his word by running away from England, John thought himself in honor bound to return to captivity, saying: "If good faith were banished from earth, it ought to be still found in the hearts of kings." He consequently returned to London, and there died.

JOHN II. CASIMIR, king of Poland, born March 21, 1609, died in Nevers, France, Dec. 16, 1672. He was a younger son of Sigismund III., of the house of Vasa, by an Austrian princess, who was baffled in her schemes to procure him the throne by his loyal adherence to his elder half brother Ladislas, who after the death of Sigismund was elected king (1632). John Casimir travelled through various countries of western Europe, entered the order of Jesuits in Rome, was made cardinal by Innocent X., but after his return to Poland again became a layman, and, having succeeded his brother in 1648, married his widow Maria Luisa Gonzaga. His reign commenced amid the confusion and disasters caused by the great revolt of the Cossacks under Chmielnicki, who had advanced into the very heart of Poland. The power of the king had been stripped of almost all its prerogatives by the growing influence of the nobles. Russia and Sweden, which had long been active enemies of Poland, availed themselves of its distracted condition, and renewed their attacks. George Rákóczy of Transylvania, too, invaded the Polish territory, while diet after diet was dissolved by abuses of the *liberum veto*. Charles

Gustavus of Sweden triumphantly marched through the country, and occupied Cracow, John Casimir having fled to Silesia. Before Czenstochowa, however, the Swedes met with an unexpected check, and a confederation of the nobles against all enemies of the country having been formed, Czarniecki won a series of victories over the Swedes, Transylvanians, Cossacks, and Russians. The wars with the Swedes and Russians were terminated by treaties involving considerable cessions of provinces on the Baltic and the Dnieper on the part of Poland, which also lost its sway over the Cossacks, who put themselves under the protection of the czar. During these long disturbances John Casimir, though feeble and of a peaceful disposition, frequently proved his patriotism and bravery. The intrigues of his wife in favor of the prince of Condé as successor to the throne having brought about a rebellion under George Lubomirski and a bloody though short civil war, the king finally resolved upon abdication, and resigned his crown at the diet of Warsaw, Sept. 16, 1668. In the following year he retired to France, where he was hospitably treated by Louis XIV. His wife had died without issue before his abdication. His body was removed to the cathedral of Cracow in 1676, his heart only being interred in St. Germain des Prés, of which Louis XIV. had made him abbot. John Casimir's reign was one of the most disastrous in the history of Poland, whose dismemberment by the houses of Moscow, Brandenburg, and Hapsburg, which was executed 100 years after his death, he predicted in a memorable speech to the diet of 1661.

JOHN III. SOBIESKI, king of Poland, born in the circle of Zloczow, then belonging to the palatinate of Belz, in 1629, or according to some in 1624, died June 17, 1696. His father, Jacob Sobieski, castellan of Cracow, who had fought with distinction under Zolkiewski and Chodkiewicz in the "war of Chocim," on which he wrote a commentary in Latin, carefully attended to the education of his two sons, of whom Marcus was the elder, and to complete it sent them to Paris. Here John entered the ranks of the musketeers of the young Louis XIV. under Condé, but on receiving the news of the death of King Ladislas IV. and the disasters caused by the bloody rising of the Cossacks (1648), both brothers hastened to their country and offered their services to the brother and successor of Ladislas, John Casimir. Both fought bravely, John especially distinguishing himself in the battle of Beresteczko (1651), but Marcus fell soon after. The invasion of Charles Gustavus of Sweden and the simultaneous dangers which threatened Poland from every quarter gave Sobieski ample opportunity to display his heroic valor, and next to Czarniecki he was foremost in saving the country from ruin. His services were well rewarded, and shortly before the abdication of John Casimir he received the chief command of the army. The new king, Michael Korybut, having concluded an ignominious

treaty with the sultan, Sobieski caused its rejection by the senate, hastened to Podolia, and routed the Turks at Ohocim (1678). The news of the king's death arrived a few days later, and the commander and his followers hastened to Warsaw to attend to the election of a successor. This resulted, after stormy debates, in the choice of Sobieski, who immediately resumed the war, and rescued the fortress of Trembowla, which had been saved by the heroism of the wife of the commander. Another campaign was terminated less successfully by a treaty with the Turks at Zurawno, where Sobieski was nearly compelled to surrender with his comparatively small army. The rising of the Hungarians under Toköli, and the invasion of the Mussulmans under the grand vizier Kara Mustapha, having brought Austria to the brink of ruin, Sobieski was persuaded by his wife and the ambassadors of the emperor and pope to hasten to the rescue of Vienna, which was besieged by an army of 800,000 men (1683). The Poles, numbering about one tenth as many, were joined by a somewhat larger body of German troops. Scarcely had they arrived before Vienna when Sobieski gave the signal for attack. The Turks were driven within their intrenchments, and attacked there on the next day. The charge was terrible, and after a short struggle the Turks were completely routed. Sobieski made a triumphal entry into Vienna, and was hailed by all Europe as the saviour of Christendom. The emperor Leopold alone, who had fled from his capital, was too proud to receive cordially the hero who was "only an elected monarch." Sobieski pursued his success, following the enemy into Hungary, which was soon restored to the emperor. Returning to Poland, where the intrigues of his wife had created for him a large number of enemies, he made a disadvantageous peace with the czar, in order to be able to turn all his forces against the Turks. The conquest of Wallachia was the aim of this undertaking, in which he failed after various attempts. The last years of his life were embittered by civil as well as domestic troubles. Admired as a warrior and a man of rare accomplishments, he was little esteemed by the Polish nation as a monarch, and after his death his 3 sons, Jacob, Constantine, and Alexander, were passed over at the election, which gave the crown of Poland to Augustus of Saxony. The *Lettres du roi de Pologne, Jean Sobieski, à la reine Marie Casimire, pendant la campagne de Vienne*, were published in Paris in 1826.

JOHN (JOHANN NEPOMUCK MARIA JOSEPH), king of Saxony, son of the duke Maximilian and the princess of Parma, born Dec. 12, 1801. He distinguished himself at an early age by his knowledge of Italian literature, and prepared a metrical translation of the first 10 cantos of Dante's *Inferno*. Subsequently he published a version of the whole *Divina Commedia*, with critical and historical annotations (8 vols., Leipzig, 1839-'49). He presided for many years

over the financial affairs of Saxony, and took an active part in the preparation of the constitution of 1831. In the upper chamber, where as a prince of the blood royal he occupied the first place, he evinced much ability. He is particularly conspicuous for his devotion to the interests of the church of Rome. He succeeded his brother Frederic Augustus on the throne of Saxony, Aug. 9, 1854. His wife is a daughter of the late Maximilian of Bavaria. His eldest daughter was married to the duke of Genoa, a brother of the king of Sardinia, who died in 1856. His eldest son, Frederic Augustus Albert (born 1828), married in 1858 a daughter of Prince Gustavus Vasa.

JOHN, archduke of Austria and vicar of Germany, born in Florence, Jan. 20, 1782, died in Gratz, May 10, 1859. His father, Leopold II., grand duke of Tuscany, succeeded in 1790 his brother Joseph II. as emperor of Austria. His mother, a virtuous, pious princess, was a daughter of Charles III. of Spain; and his elder brother was Francis I., emperor of Austria. Without having had any opportunity of acquiring practical military knowledge, he was appointed in 1800 to take the command in chief of the Austrian army, and was defeated by the French under Moreau at Hohenlinden and near Salzburg. After the peace of Lunéville (Feb. 9, 1801) he became director-in-chief of the department of fortification and engineering, and of the chief military academies of the empire. He frequently visited the Tyrol, where he became very popular. He took the place of his brother, the archduke Charles, as president of the council of war and as minister of war, from 1808 to Sept. 1805, when he was invested with the command of the army in the Tyrol, but was not able to preserve that country for Austria. In 1809 he planned through Hormayr the rising of the Tyrolese, and commanded the army which was to operate in the Tyrol and Italy. While Chasteler, acting under his orders, succeeded in conquering the former country, the archduke achieved several victories in Italy, especially on April 16, near Sacile, over the viceroy Eugene. On hearing of the critical condition of Vienna, he effected his retreat; but while on his way to rescue the capital he was defeated on the Piave (May 8), and, having retreated as far as Hungary, met with a still more disastrous defeat at Raab (June 14, 1809). On July 5 he was summoned to the assistance of the archduke Charles at Wagram, but was not able to effect a junction with his army. He relinquished his command after the peace of Vienna, Oct. 14, 1809, and with the exception of the siege of Hünningen took no part in the campaigns of 1813-'15. He was not permitted to go to the Tyrol, his popularity there rendering him an object of suspicion to the court. He resided many years chiefly in Gratz, which city he had already benefited in 1811 by the foundation of the Johanneum gymnasium, and which is indebted to him for many other public institutions. In 1827, while travelling in Styria, he became acquainted with

Anna Plochel, whose father was postmaster at Aussee. He contracted a morganatic marriage with her, after which she was raised to the rank of baroness of Brandhof and countess of Meran. He lived for many years in retirement, devoted to scientific and industrial pursuits, but his popular personal qualities created for him a reputation beyond the mountains of the Tyrol and Styria; and in 1848, on the adoption of a provisional government by the Frankfort parliament, he was chosen vicar of the empire (*Reichsverweser*). Shortly before, after the downfall of Metternich and the subsequent flight of his nephew, the emperor Ferdinand, to Innspruck, he had been appointed by the latter to take the reins of government at Vienna. The archduke preferred, however, to devote himself to the management of affairs at Frankfort, but although showing much disposition to accept the responsibilities of a constitutional ruler, he was chiefly engaged in preventing a preponderance of Prussia at the expense of Austria. After the adoption of the resolution of March 28, 1849, which nominated the king of Prussia emperor of Germany, he was with difficulty prevented from abdicating; after the withdrawal of the Gagern administration (May 10, 1849), he appointed Grävell, Jochmus, Detmold, and Merck as his ministers, who were all, with the exception of Grävell, who soon retired, Austrian partisans, while the archduke himself virtually ceased to occupy any other position but that of a guardian of the interests of the Austrian dynasty. His term of office expired Dec. 20, 1849, after which he returned to Styria, leaving the reputation of a prince whose attachment to the house of Hapsburg was stronger than his sympathies with the welfare of the German people. He had one son, Francis, count of Meran.

JOHN, KNIGHTS OF SAINT. See SAINT JOHN, KNIGHTS OF.

JOHN OF GAUNT (or GHEENT), duke of Lancaster, 4th son of Edward III., born in Ghent in 1340, died in 1399. He married Constance, one of the daughters of Pedro the Cruel of Castile, and immediately assumed the arms and title of king of Castile. He distinguished himself for valor in the wars of the Black Prince in France, and succeeded to the management of his affairs. In England he defended Wycliffe, and was often suspected of aiming at the crown. He resigned his pretensions to the throne of Castile, when in 1386 his daughter Catharine married the heir apparent of that kingdom. His eldest son in 1399 became the first English king of the house of Lancaster, as Henry IV. John of Gaunt's third wife was Catharine Swynford, governess of his children, by whom he had 3 sons and one daughter before their marriage. These were legitimated, and one of them, John de Beaufort, earl of Somerset, was an ancestor of the Tudors.

JOHN OF LEYDEN. See ANABAPTIST.

JOHN OF SALISBURY, called also JOHANNES PARVUS (John the Little), an English scholastic philosopher, born in the old town of Salisbury (Old Sarum) about 1190, died in Chartres,

France, Oct. 25, 1180. He studied at Oxford, and in 1136 passed over to France, where he attended with enthusiastic admiration the lectures of Abelard, whom he esteemed the most profound and brilliant of the doctors, and afterward of Alberic of Rheims, Robert of Melun, William of Soissons, Richard the Bishop, and Pierre Hélie. He opened a school at Paris about 1140, but with little success, and on account of his poverty retired to the abbey of Montier la Celle. About 1151 he returned to England with recommendations from Pierre de Celle and St. Bernard, and was appointed secretary to Theobald, archbishop of Canterbury, who introduced him to his future successor Thomas à Becket. He was sent on important diplomatic missions to Popes Eugenius III., Anastasius IV., and Adrian IV., with the last of whom he was an especial favorite. He was the secretary of Becket when he became archbishop of Canterbury, was called his eye and his arm, supported him in his contest with Henry II., shared his exile and disgrace, and returned with him to England. In 1176 he was elected to the bishopric of Chartres, and passed the rest of his life in his diocese. He was highly reputed not only as a scholar, but as a poet and orator. His most important works are: *Polycraticeus, sive de Curialium Nugis et Vestigiis Philosophorum*, an erudite and caustic satire on the follies of courtiers and philosophers, and *Metalogiceus*, in which he vindicates the studies of the schools against the sneers and outcries of the ignorant. His complete works were first collected by J. A. Giles (5 vols., Oxford, 1848).

JOHN THE BAPTIST, the forerunner and relative of Christ, son of the priest Zacharias and Elizabeth, and cousin of the Virgin Mary, born at Jutta or at Hebron in 5 B. C., beheaded about the end of A. D. 28. His birth and office were foretold by the angel Gabriel to his father as he was burning incense in the temple of Jerusalem. When Zacharias asked for some sign of the truth of the prophecy, his tongue was sealed, and he did not recover his speech till after the birth of the child. Six months after Elizabeth had conceived, she was visited by Mary, and at her salutation she felt the babe leap in her womb. John abode in the desert until, a short time before the ministry of Jesus, he appeared clothed with camels' hair and with a leathern girdle about his loins as a prophet in the country about the Dead sea, exhorting the people to repentance, and proclaiming the approach of the Messiah. Those who believed he baptized in the Jordan, announcing at the same time the coming of a mightier one, who should baptize them with the Holy Ghost and with fire. He recognized the Messiah in Jesus, who presented himself for baptism, and publicly declared him "the Lamb of God, that taketh away the sins of the world." It is not certain what were the relations between John and Jesus, but the disciples of the former were a separate sect after his death, and still exist in the East under the name of Sabians or Christians of St. John. On ac-

count of his censure of the marriage of Herod Antipas with his sister-in-law Herodias, John was imprisoned in the castle of Machærus, where he was beheaded at the instance of Herodias. His birth and death are commemorated by the Roman Catholic church respectively on June 24 and Aug. 29. In England he was formerly esteemed the patron of architects, and was held in special honor by the free masons.—See Rohden, *Johannes der Täufer* (Lübeck, 1888).

JOHN THE EVANGELIST, one of the apostles, son of the fisherman Zebedee and Salome, born in Bethsaida, on the lake of Galilee, died about A. D. 100. He followed the occupation of his parents, was probably a disciple of John the Baptist, and became when about 25 years old, with his brother James, a disciple of Jesus, whom he was one of the first constantly to accompany. It is believed that he was the youngest of the apostles, and the special attachment of the Saviour to him is expressed in his description of himself as "that disciple whom Jesus loved." He was present at the transfiguration, prepared the last supper, at which he reclined on the bosom of his master, and was the only disciple who accompanied Jesus to the cross. While hanging on the cross the Saviour confided his mother to the care of St. John. After the ascension John remained for a while at Jerusalem, but from this time history is silent concerning him. The traditions, however, agree that he afterward abode in Ephesus and Asia Minor. According to Jerome, he was arrested by command of the proconsul, and taken to Rome, where he was plunged into a vessel of boiling oil, but, as this did not harm him, was banished (A. D. 95) to the island of Patmos; he was released after the death of Domitian, and died in the reign of Trajan, at a very advanced age. According to the same authority, he became at last so weak that he was obliged to be carried to the Christian assemblies, and when there could only say: "Love one another, my children." His festival is celebrated by the Roman Catholic church on Dec. 27. He is usually painted with a cup from which a serpent is issuing, in allusion to poison which was believed to have been offered him in a glass, from which he expelled the venom in the form of a serpent by making the sign of the cross.—The New Testament contains a Gospel, three Epistles, and the Apocalypse, or book of Revelations, bearing his name. His Gospel gives the speeches of Christ more fully than the synoptic Gospels, but historical facts appear less prominently in it than the doctrines which are implied and established by the facts. According to the fathers, it was written at Ephesus or at Patmos in the latter part of the 1st century, but the certain external proofs of its authenticity begin with the year 170; from that time it was received without question by the church. Bretschneider (1820) supposed it to have been written in the first half of the 2d century to develop a metaphysical doctrine of the divinity of Christ. Schwegler (1841), Baur (1847), and others, have viewed

it as skilfully composed in the 2d century for the purpose of reconciling the Jewish and gentle Christians. Its genuineness has been maintained among others by Calmborg, Hauff, Schleiermacher, Baumgarten-Crusius, Luthardt, Niermayr, and Schneider.—The 1st Epistle was probably addressed to Christian congregations in Asia Minor, which had been under the charge of the apostle, and urges love, devotion, and moral strictness. It consists of separate thoughts and precepts, with little logical connection. The 2d Epistle is addressed to a lady of rank, called "the elect lady," supposed by some to refer to a Christian church. The 3d Epistle is addressed to Gaius, who is commended for his hospitality to the faithful, and contains, like the 1st, allusions to Gnostic errors.—The Apocalypse has been treated in this work under its special head.—The most comprehensive commentary on the writings of John is that of Lücke (8d ed., under the care of Bertheau, 1856). Other important commentators on them, beside those on the New Testament collectively, are: on the Gospel only, Tholuck (1827) and Lange (1860); on the Epistles, Dusterdieck (1852); on the 1st, Epistle, Steinhofner (1848), Neander (1851), and Erdmann (1854).

JOHN SCOTUS. See ERIGENA.

JOHNSON, the name of 8 counties in the United States. I. A N. co. of Texas, intersected by Brazos river; area, 998 sq. m.; pop. in 1858, 2,304, of whom 257 were slaves. The surface on the E. of the Brazos is undulating, and on the W. hilly. The soil is well adapted to wheat, and is generally fertile. Prairie and timber lands are distributed in nearly equal quantities. The county was organized in 1854. Value of land in 1858, \$190,980. Capital, Buchanan. II. A N. W. co. of Ark., traversed by Arkansas river, which is here navigable by steamboats; area, 840 sq. m.; pop. in 1854, 5,021, of whom 920 were slaves. The surface is moderately uneven, and the soil is fertile, but not uniformly so. The productions in 1854 were 246,505 bushels of Indian corn, 8,484 of wheat, 58,876 of oats, and 1,862 bales of cotton. Capital, Clarksville. III. A N. E. co. of Tenn., bordering on Va. and N. C., and having the Alleghany mountains on its S. E. boundary; area, 800 sq. m.; pop. in 1850, 8,705, of whom 206 were slaves. It is watered by Watauga river and its branches. The surface is mountainous and thickly wooded, and the county is rich in iron. The agricultural productions in 1850 were 87,801 bushels of Indian corn, 57,037 of oats, 43,214 lbs. of butter, 9,675 of wool, and 1,801 of tobacco. There were 21 grist mills, 9 saw mills, 7 churches, and 600 pupils attending public schools. Capital, Taylorsville. IV. An E. co. of Ky., traversed by the W. fork of Big Sandy river; area, 140 sq. m.; pop. in 1850, 3,873, of whom 80 were slaves. It abounds in sandstone and coal, and has a hilly surface with a sandy but fertile soil. The productions in 1850 were 185,120 bushels of Indian corn, 1,736 of wheat, 21,786 of oats, 9,250 lbs. of tobacco, 11,178 of

wool, and 6,820 of flax. There were 2 saw mills, 4 churches, and 805 pupils attending public schools. Capital, Paintville. V. A central co. of Ind., watered by the W. fork of White river and several smaller streams; area, 820 sq. m.; pop. in 1850, 12,101. The surface is moderately uneven, and the soil is chiefly a rich loam. The productions in 1850 were 993,375 bushels of Indian corn, 99,088 of wheat, 84,262 of oats, 41,602 lbs. of wool, and 8,082 tons of hay. There were 18 grist mills, 11 saw mills, 1 newspaper office, 85 churches, and 4,708 pupils attending public schools. The Martinsville and Jeffersonville railroads meet at Franklin, the capital. VI. A S. co. of Ill., drained by Cash river; area, 486 sq. m.; pop. in 1855, 6,946. It has a level surface and a good soil. The productions in 1850 were 133,295 bushels of Indian corn, 6,887 of wheat, 10,689 of oats, and 19,086 lbs. of butter. There were 11 grist mills, 2 saw mills, 9 churches, and 524 pupils attending public schools. Capital, Vienna. VII. A W. co. of Mo., drained by branches of Blackwater river; area, 785 sq. m.; pop. in 1856, 10,880, of whom 1,513 were slaves. The surface is mostly prairie, diversified with large tracts of timber. The soil is generally good and suitable for pasturage, and the county contains rich beds of coal. The productions of agriculture in 1850 were 445,895 bushels of Indian corn, 22,980 of wheat, 89,245 of oats, and 1,247 tons of hay. There were 18 grist mills, 11 saw mills, 12 churches, and 1,151 pupils attending public schools. The so called Pacific railroad, now in progress, will pass through Warrensburg, the capital. VIII. An E. co. of Iowa, drained by Iowa river, which is navigable by small steamboats in the S. part of the county; area, 324 sq. m.; pop. in 1859, 16,900. The surface is moderately uneven and the soil remarkably fertile. The productions in 1859 were 683,743 bushels of Indian corn, 19,513 of wheat, 28,202 of oats, 43,857 of potatoes, 198,016 lbs. of butter, 6,870 galls. of molasses, and 11,197 tons of hay. Capital, Iowa City.

JOHNSON, ALEXANDER BRYAN, an American author and banker, born in Gosport, England, May 29, 1786. He removed to the United States in 1801, and has since resided in Utica, N. Y., where he has been engaged for more than 40 years in the business of banking. He was admitted to the bar, but never practised. Early in youth he began the special studies to which he has devoted nearly all his leisure, and which may be defined as an attempt to ascertain the nature of human knowledge as it exists apart from the words in which it is expressed. Previous speculation on this problem, he affirms, had always resulted in the formation of some verbal system, while he sought a solution that should be un verbal and absolute, and applicable alike to every department of knowledge, to all subjects on which words can be employed. He has therefore not attempted to enforce any tenets, or to combat any, but simply to show the ultimate meaning of words—not their meaning as

related to each other by definition, but the ideas, irrespective of words, for which words stand. His first publication on this subject was the "Philosophy of Human Knowledge, or a Treatise on Language" (New York, 1828). It was followed by his "Treatise on Language, or the Relation which Words bear to Things" (8vo., 1836), and by his most mature work, entitled "The Meaning of Words Analyzed into Words and Unverbal Things, and Unverbal Things Classified into Intellections, Sensations, and Emotions" (12mo., 1854). In the last publication, he confessed that he had before but dimly seen the object of his search, which he had approached by slow approximations during reflections for more than 60 years. His "Physiology of the Senses, or How and What we See, Hear, Taste, Feel, and Smell" (12mo., 1856) was the earliest of his writings in the order of conception. Beside the above works, which embody his main studies, he has written frequently on miscellaneous topics; on the nature of value, capital, &c. (1818); on "Religion in its Relation to the Present Life" (1840), an argument in favor of Christianity from the congruity of its precepts with man's physical, intellectual, and emotional organization; an "Encyclopædia of Instruction, or Apologues and Breviates on Men and Manners" (12mo., 1857); and a "Guide to the Right Understanding of our American Union, or Political, Economical, and Literary Miscellanies" (12mo., 1857).

JOHNSON, ANDREW, a U. S. senator from Tennessee, born in Raleigh, N. C., Dec. 29, 1808. When he was 4 years of age he lost his father, who died from the effects of exertions to save a friend from drowning. At the age of 10 he was apprenticed to a tailor in his native city, with whom he served 7 years. His mother was unable to afford him any educational advantages, and he never attended school a day in his life. While learning his trade, however, he resolved to make an effort to educate himself. His anxiety to be able to read was particularly excited by an incident which is worthy of mention. A gentleman of Raleigh was in the habit of going into the tailor's shop and reading while the apprentice and journeymen were at work. He was an excellent reader, and his favorite book was a volume of speeches, principally of British statesmen. Johnson became interested, and his first ambition was to equal him as a reader and become familiar with those speeches. He took up the alphabet without an instructor; but by applying to the journeymen with whom he worked, he obtained a little assistance. Having acquired a knowledge of the letters, he applied for the loan of the book which he had so often heard read. The owner made him a present of it, and gave him some instruction on the use of letters in the formation of words. Thus his first exercises in spelling were in that book. By perseverance he soon learned to read, and the hours which he devoted to his education were at night after he was through his daily labor upon the

shop board. He now applied himself to books from 2 to 3 hours every night, after working from 10 to 12 hours at his trade. Having completed his apprenticeship in the autumn of 1824, he went to Laurens Court House, S. C., where he worked as a journeyman for nearly 2 years. While there he became engaged to be married, but the match was broken off by the violent opposition of the girl's mother and friends, the ground of objection being Mr. Johnson's youth and want of pecuniary means. In May, 1826, he returned to Raleigh, where he procured journey work, and remained until September. He then set out to seek his fortune in the West, carrying with him his mother, who was dependent upon him for support. He stopped at Greenville, Tenn., and commenced work as a journeyman. He remained there about 12 months, married, and soon afterward went still further westward; but failing to find a suitable place to settle, he returned to Greenville and commenced business. Up to this time his education was limited to reading, as he had never had an opportunity of learning to write or cipher; but under the instructions of his wife he learned these and other branches. The only time, however, he could devote to them was in the dead of night. The first office which he ever held was that of alderman of the village, to which he was elected in 1828. He was reelected to the same position in 1829, and again in 1830. In that year he was chosen mayor, which position he held for 3 years. In 1835 he was elected to the legislature. In the session of that year he took decided ground against a scheme of internal improvements, which he contended would not only prove a failure, but entail upon the state a burdensome debt. The measure was popular, however, and at the next election (1837) he was defeated. He became a candidate again in 1839. By this time many of the evils he had predicted from the internal improvement policy which he had opposed 4 years previous were fully demonstrated, and he was elected by a large majority. In 1840 he served as presidential elector for the state at large on the democratic ticket. He canvassed a large portion of the state, meeting upon the stump several of the leading whig orators. In 1841 he was elected to the state senate. In 1843 he was elected to congress, where, by successive elections, he served until 1853. During this period of service he was conspicuous and active in advocating, respectively, the bill for refunding the fine imposed upon Gen. Jackson at New Orleans in 1815, the annexation of Texas, the tariff of 1846, the war measures of Mr. Polk's administration, and a homestead bill. In 1853 he was elected governor of Tennessee, after an exciting canvass, in which he was opposed by Gustavus A. Henry. He was reelected in 1855, after another active contest, his competitor being Meredith P. Gentry. At the expiration of his 2d period as governor, in 1857, he was elected U. S. senator for a full term, ending March 3, 1863.

JOHNSON, CHAPMAN, an American lawyer, born in Louisa co., Va., in March, 1779, died in

Johnson

Richmond in July, 1849. He completed his education at William and Mary college, studied law under Judge St. George Tucker, and commenced the practice at Staunton in 1802. Although he met with little success at first, his talents, industry, and profound legal learning soon placed him in the front rank of the profession. In 1815 he was elected from the Staunton district to the state senate, which office he held by successive elections for 16 years. He removed from Staunton to Richmond in 1824 with a view of concentrating his extensive practice, which had spread over many of the counties of the Valley and Piedmont country. During the war of 1812 he was elected captain of a volunteer company, and was afterward appointed aid to Gen. James Breckinridge, under whom he was engaged in active service. He was a member of the convention of 1829-'30 assembled in Richmond to amend the state constitution, and was here the champion of the "white basis party." A few years before his death he retired from practice on account of ill health.

JOHNSON, EDWARD, a historian of New England, born in Kent, England, about 1600, died April 23, 1672. He emigrated to America probably with Gov. Winthrop in 1630. In 1632 he was engaged in trade at Merrimack, but appears to have resided usually at Charlestown. He was on the committee appointed to superintend the foundation of a new town and church at the place now called Woburn. In 1648 he went to Providence with Capt. Cook's party to seize Gorton, and in the same year was elected by the townsmen of Woburn a member of the legislature of Massachusetts, in which he continued to sit till 1671, with the exception of 1648. In 1655 he was chosen speaker of the house. He was recorder of Woburn from the time of its incorporation till his death. In 1665 he was one of the members deputed to hold conference with the commissioners sent from England by Charles II. He wrote a "History of New England from the English Planting in 1628 till 1682, or Wonder-Working Providence of Zion's Saviour" (London, 1654), which, notwithstanding its defective and desultory style, is interesting and valuable. It has been reprinted in the 2d series of the Massachusetts historical collections, scattered through vols. ii., iii., iv., vii., viii.

JOHNSON, ISAAC, one of the original colonizers of Massachusetts, born in Clipsham, Rutlandshire, England, died in Boston, Sept. 30, 1630. He arrived at Salem with his wife, June 12, 1630, and was one of the 4 persons who founded the first church at Charlestown in the following month. The water there however being bad, Mr. Johnson and some others removed to Shawmut, now Boston, where was "an excellent spring." He superintended the first settlement of Boston, was a good, wise, and wealthy man, and bequeathed, at his death, considerable property to the colony.—ARBELLA, or ARABELLA, wife of the preceding, and daughter of Thomas, 14th earl of Lincoln, accompanied her husband to New England, and died in

Salem in the August subsequent to her arrival. She was usually styled the "lady Arbella," and was highly esteemed by Winthrop, who changed the name of his ship, and called it after her.

JOHNSON, MANUEL JOHN, an English astronomer, born in 1805, died in Oxford, Feb. 28, 1859. He was educated at Addiscombe, and in 1821 entered the army. During the leisure of a 10 years' military residence in St. Helena he devoted himself to astronomical observations, and mainly by his exertions an observatory was erected on the island. Working in this with great assiduity he produced in 1835 a "Catalogue of 606 principal Fixed Stars of the Southern Hemisphere." Upon the disbanding of the artillery corps he returned to England, entered at Magdalen college, Oxford, and was graduated in due course. Scarcely had he taken his degree when he was appointed astronomer at the Radcliffe observatory. He immediately commenced the re-observation of all the stars, more than 4,000 in number, included in the Groombridge catalogue, to which he added 1,500 other stars not found in it, recording his observations in vols. xl. to liii. of the Radcliffe observatory. These were designed for ultimate collection in one large catalogue of circumpolar stars, a work which Mr. Johnson did not live to complete. Subsequent to 1849 he devoted much time to observations with the great heliometer of the Radcliffe observatory, with a view of determining the parallaxes of the fixed stars. Two series of these have been published.

JOHNSON, REVERDY, an American lawyer and statesman, born in Annapolis, Md., May 21, 1796. He was educated at St. John's college in that city, and at the age of 17 began to study law in Prince George's co. in the office of his father, who was chief justice of the judicial district of which that county was a part. In 1815 he was admitted to the bar, and in 1817 removed to Baltimore, where he has ever since resided. He has devoted much of his time to the arguing of cases before the U. S. supreme court. In conjunction with Mr. Thomas Harris he reported 7 vols. of the decisions of the Maryland court of appeals, known as "Harris's and Johnson's Reports," the 1st vol. of which appeared in 1820 and the 7th in 1827. In 1821 he was elected a state senator, and at the expiration of his term in 1825 he was reelected for a second term. In 1845 he was chosen a U. S. senator, which office he resigned in 1849 on being appointed by President Taylor attorney-general of the United States. On the succession of Mr. Fillmore after the death of President Taylor, Mr. Johnson resigned that office, and resumed in Baltimore the practice of the law, which he has since constantly pursued.

JOHNSON, RICHARD MENTOR, an American statesman and soldier, born at Floyd's station, near Louisville, Ky., Oct. 17, 1780, died in Frankfort, Nov. 19, 1850. He was educated at Transylvania university, and subsequently studied law and practised with success. He commenced his public career as a member of the

Kentucky legislature, to which he was elected at the age of 23, and in 1807 was returned to congress, and remained a member of the house until 1819. He was a firm supporter of the administration of President Madison, and upon the commencement of the war of 1812 raised a body of Kentucky mounted riflemen, whom he commanded, with the rank of colonel, on the Canadian frontier. He resumed his legislative duties in the autumn of that year, but upon the adjournment of congress in the spring of 1818 he immediately raised another mounted regiment, with which he was employed for several months on the Indian frontier. In September he joined Gen. Harrison, then in pursuit of Proctor, and by the decisive charge of his mounted volunteers mainly contributed to the brilliant victory gained over the British and Indians at the battle of the Thames, Oct. 5. Col. Johnson fought with distinguished valor in this engagement, and it was by his hand that the Indian leader Tecumseh is commonly supposed to have fallen. He was carried from the field desperately wounded, his person, clothing, and horse having been pierced by upward of 25 bullets; but in the following February he resumed his seat in congress. In 1819 he was elected to fill a vacancy in the U. S. senate, of which he continued a member until 1829, when he was again returned to the house of representatives. He remained a member until his election by the senate in March, 1837, as vice-president of the United States, no one of the candidates for that office having had a majority of votes in the electoral college, although Col. Johnson's plurality was very large. He discharged the duties of presiding officer of the senate for 4 years, and in the presidential election of 1840 was an unsuccessful candidate of the democratic party for vice-president. He returned to his farm in Scott co., Ky., after upward of 84 years' continuous public service, and thenceforth lived chiefly in retirement. He was, however, serving a term in the state legislature at the time of his death. In congress his chief efforts were against the discontinuance of the Sunday mails, and in behalf of soldiers of the revolution or of the war of 1812, who applied for pensions. He was the author of the law abolishing imprisonment for debt in Kentucky. He was buried in the state cemetery at Frankfort, at the base of the public military monument.

JOHNSON, SAMUEL, D.D., first president of King's (now Columbia) college, New York, born in Guilford, Conn., Oct. 14, 1696, died in Stratford, Conn., June 6, 1772. He was graduated at Yale college in 1714, and two years later was appointed tutor there. In 1720 he resigned his tutorship to receive ordination as a Congregational minister, and settled at West Haven in order to enjoy the advantages of the college library. He relinquished his pastoral charge in 1722, and soon after, in company with Mr. Cutler, rector of the college, and another gentleman, sailed for England, where they received Episcopal ordination in 1723, and in May Mr.

Johnson received the degree of A.M. from the university of Oxford. Shortly after he returned to America, bearing a commission as missionary of the society for the propagation of the gospel in foreign parts, and settled in Stratford, Conn., as rector of an Episcopal church there. In 1748 he received the degree of D.D. from the university of Oxford. In 1746 he published a work on ethics entitled "A System of Morality," and in 1752 a compend of logic and metaphysics, and another of ethics, originally prepared for the use of his sons; the two latter were printed in Philadelphia by Dr. Franklin as text books for the university of Pennsylvania. In 1755 he was offered the presidency of that university, but declined it. In 1753 he was invited to accept the presidency of the newly founded college in New York, in all the plans for which he had been consulted. He did so with reluctance, but entered upon his duties with great zeal, and, in addition to teaching the classes, assisted in planning the college edifices, and made earnest appeals to his friends in England for assistance in its endowment. During the 9 years of his presidency he lost his wife, younger son, and stepson, and he became so much depressed as to be unwilling to remain longer in charge of the college. He accordingly wrote to England for a successor, and in 1763 resigned and returned to Stratford. During his presidency he published one or two small works, and after his return to Stratford, where he resumed his parochial duties, revised his previous works, and published an English and a Hebrew grammar.

JOHNSON, SAMUEL, LL.D., an English essayist, poet, and lexicographer, born in Lichfield, Sept. 18, 1709, died in London, Dec. 18, 1784. His father, Michael Johnson, was a bookseller and stationer, and for some time was a magistrate of Lichfield; but his fortune was limited, and dying in middle age, he left his family in poverty. From his birth the younger Johnson was afflicted with a malignant scrofula which permanently disfigured his face, and injured both his sight and hearing. At 10 years of age he commenced the study of Latin at the Lichfield free school, and by the united agencies of great natural aptitude and severe discipline he made a fair proficiency. He remained there about 5 years, and another year at a private academy in Stourbridge. On account of his father's poverty his entrance at Oxford was delayed for two years, during which time he amused himself chiefly in reading the books in his father's shop. At length a schoolmate, the son of a neighboring gentleman, was about to go up to Oxford, and it was arranged that young Johnson should accompany him as assistant and fellow student. He was accordingly admitted to Pembroke college as a commoner in 1728. His college life was disorderly, but not vicious. He especially distinguished himself in a Latin translation of Pope's "Messiah," for which he received the applause of his college, while Pope himself declared that it would be a question for posterity which was the original and which the transla-

tion. While at Oxford he showed signs of the morbid state of his brain and nervous system which affected him in all his after life; but by skilful treatment, and the strong will of the patient, the disease was held in check, and the threatened wreck of intellect averted. He remained at the university about 8 years, and left on account of poverty without a degree. Only a few weeks later his father died, leaving but little property, and Johnson procured employment as an usher in a school at Market Bosworth, Leicestershire. He next spent some time at Birmingham, which was then an inconsiderable country town, with a bookseller, who also published a small newspaper, to which Johnson contributed. Here he became acquainted with the family of Mr. Porter, a linen draper, whose widow he afterward married. About this time he executed his first literary work, a translation of Father Lobo's "Voyage to Abyssinia." He soon after issued proposals to publish by subscription the Latin poems of Politian, with a history of Latin poetry from the age of Petrarch to the time of Politian; but the work was never completed. He spent his time alternately at Birmingham and Lichfield, till after two years he was married to Mrs. Porter, a lady of nearly twice his age, and then he opened a private academy at Edial Hall, near Lichfield. But he obtained only three pupils, two of whom were David Garrick and his younger brother; and after trial of a year and a half the enterprise was abandoned.—In the spring of 1787 he set out for London accompanied by Garrick, determined to force his fortune in the world of letters. How he disposed of himself on his arrival in London is only partially known. He sought employment among the booksellers, and lived at the most economical rates, bearing all his privations and discouragement with a sullen fortitude. With Cave, the publisher of the "Gentleman's Magazine," he had a slight second-hand acquaintance before he left Lichfield, which was now turned to account, and Johnson became a steady contributor and at length assistant editor to that publication. It was while thus occupied that he first became known to the London public by the publication of "London," a poem (1788), in imitation of the third satire of Juvenal, which was received with decided favor. His experience of life in London, however, made him quite willing to accept the mastership of a school at Appleby, to which he was recommended; but on application it was found that his want of a degree disqualified him, by the statutes of the corporation. A like difficulty stood in the way of his entering the legal profession, to which he next turned, and so he continued his labors in the service of the publishers. He now wrote still more extensively for the "Gentleman's Magazine," contributing a class of papers in biography and general literature which gave a new and higher character to that work. He also wrote two or three political pamphlets against Walpole and the whig administration. At the beginning of

the session of parliament in Nov. 1740, Johnson took charge of the debates, as published in the magazine. As the session advanced, his reports attracted no little attention. The eloquence, force of argument, and splendor of diction displayed in the speeches excited universal admiration. It was his method to ascertain the order in which the several speakers rose, and the general drift of their arguments, and, guided by this information and his knowledge of the style and manner of each speaker, he would write out the debates as they appeared in the successive issues of the magazine. The secret of their authorship was not revealed till some years later. The sale of the magazine was greatly increased during their publication; but after a little more than two years Johnson relinquished the position, because he doubted the morality of the deception he was practising upon the world, though he still retained his connection with the magazine. Early in 1744 was published the "Life of Richard Savage," which Johnson had promised to the public immediately upon the death of its subject, a few months before. The book contributed very considerably to fix the reputation of its author. The next year, among other literary labors, he wrote the preface and index to the Harleian miscellany. That famous collection of old and valuable pamphlets from the library of the earl of Oxford, which had been purchased by the bookseller Osborne, required also a great amount of physical labor in its preparation. In that painful drudgery Johnson toiled as a day laborer, and was treated by Osborne accordingly. The insolence of this "most rapacious and brutal of booksellers" once provoked Johnson to knock him down. Of this affair many stories were told. Johnson, when asked by Boswell what the truth was, replied: "Sir, he was impertinent to me and I beat him; but it was not in his shop, it was in my own chamber." The same year he issued a pamphlet entitled "Miscellaneous Observations on the Tragedy of Macbeth," to which he affixed proposals for a new edition of Shakespeare. This plan was laid aside for some years, but the pamphlet fell into the hands of Warburton, who was then engaged in a similar work, and was commended by him, as evidently the work of "a man of parts." In 1747 Garrick became joint manager of Drury Lane theatre, and Johnson was requested to prepare a prologue to be spoken at its opening under the new management. Though a piece of only about 60 lines, it added greatly to its author's reputation. In this year he issued proposals for his "Dictionary of the English Language." How he was first led to that great undertaking is not very clearly determined, though he had evidently contemplated it a long time. The plan of the work, as then published, indicates a thorough acquaintance with the subject, and a comprehensive knowledge of the method to be pursued in its prosecution. The "Plan" was addressed to the earl of Chesterfield, then one of the secretaries of state, who

was known to be ambitious of the reputation of a patron of learning, and had expressed a warm interest in the enterprise. The language used was at once dignified and complimentary, and the impression made upon the noble lord was decidedly favorable; but the association of two characters so unlike and yet so unyielding could be neither cordial nor lasting. Five publishing houses, among them Dodsley and the Longmans, were concerned in the contract. Johnson was to receive £1,575, which amount however was to cover all the incidental expenses of preparing the work for the press. To facilitate his work he removed to Gough square in Fleet street, where he had rooms properly arranged for its prosecution, being assisted by 6 copyists. He availed himself of whatever helps were offered in the extant works on English philology and lexicography, but relied chiefly on his own original labors, gathering his materials from the unharvested fields of English literature. This great work occupied its author, though not exclusively, during the next 7 years. A trip to Tunbridge Wells, in the summer of 1748, brought him into contact with some of the celebrities of the metropolis, among them William Pitt, Lord Lyttelton, Speaker Onslow, and Garrick. The marked attention paid to him by these distinguished personages was the more acceptable to him, since, though it was new, he felt that it was not undeserved. To facilitate his intercourse with his literary associates, he also this year originated a club, called from its place of meeting the "Ivy Lane Club." At its organization it consisted of 10 members, of whom Johnson, Hawkins, and Dyer afterward belonged to the celebrated "Literary Club." Meanwhile he continued his contributions to the periodical press. In 1748 Dodsley brought out his "Preceptor," a compilation of choice pieces for young persons, in which first appeared the "Vision of Theodore, the Hermit of Teneriffe." To this year also belongs his second and best poetical production, "The Vanity of Human Wishes," an imitation of the 10th satire of Juvenal. It was printed by Dodsley, and brought its author 15 guineas. While yet residing at Lichfield Johnson had commenced a tragedy, in 5 acts, called "Irene," which he finished during his first two or three years in London. It had since then been an unsuccessful suitor for a place on the metropolitan stage, until Garrick, soon after his accession to the management of Drury Lane theatre, undertook to bring it out. The play, however, was ill adapted to the stage, and despite the remonstrances of the author, it was necessary to make very considerable changes, and to lop off some of its most elaborate portions. Its success was but partial. It was acted for 9 successive nights, before tolerably large and highly respectable audiences, and was received with a good share of favor. The author's profits amounted to £200, and the copyright brought him another £100, making together a larger amount than he had hitherto received on any one occasion. The merits of "Irene" have been

very differently estimated. It confessedly lacks the vivacity, the keenness, and especially the dramatic illusions required in writings for the stage; but simply as a poem to be read in private it has many excellences.—On March 20, 1750, Johnson issued, unheralded, the first number of the "Rambler," being chiefly an elaborate preliminary essay, introducing a series of miscellaneous papers, which were promised for each succeeding Saturday and Tuesday. The new periodical made little stir at first, but by degrees the public became sensible of its excellence. Its authorship was not publicly confessed, but it was readily identified by all who knew any thing of Johnson's style, nor did he affect any great secrecy in the matter. For two years the semi-weekly issues were continued without omission; the character of the essays was sustained to the end, and the last number admirably concluded the whole with a dignified valedictory. In projecting and carrying forward this work, Johnson had neither counsellors nor assistants. Of its 208 numbers he was the sole author of all but 8, and of these 4 were partly written by him. It is pretty well ascertained that when the first number was printed none of its successors were written; and of the 200 pieces by the author's own hand, not more than 30 were from materials previously arranged. Such a work would have seemed a great one had it been the sole occupation of the writer during the period of its progress, but at the same time he was chiefly occupied with his dictionary, which was then rapidly approaching its completion. During this portion of his life his mind was remarkably vigorous and fruitful, and its vast accumulations were thrown off in profusion and with great facility. The "Rambler," though greatly admired by the most competent judges, was coldly received by the public as a periodical; but when collected into volumes it became immediately popular. Its last issue was a noble effort of self-possessed greatness, calmly reviewing its own accomplished work and justly estimating its value. About this period Johnson was concerned in an affair that for a time exposed him to the suspicion of even some of his best friends—an attempt to prove Milton guilty of a wholesale plagiarism in his "Paradise Lost." One Lauder, a Scotch schoolmaster, pretended to have found a large share of the best portions of Milton's great poem among the works of the modern Latin poets; his proofs of this grave charge were embodied in a pamphlet, to which Johnson was induced to write a preface and postscript, thus by implication approving the whole production. That he was the dupe of the impudent Scotchman is very evident, though it is scarcely less certain that his own political prejudices had a determining influence upon his mind. But the whole affair was presently brought to the light, and the intended disgrace of the great poet made to recoil upon the libellous critic and his abettors. Lauder's pretended quotations from the modern Latin poets were found to be either

taken from Hogg's Latin version of "Paradise Lost," or pure forgeries. Johnson was deeply chagrined, and at once acknowledged his own error, and compelled Lauder to publicly confess his falsehood. Though Johnson had a strong dislike of Milton's politics, he still highly appreciated his genius, and of this he about this time gave a practical demonstration. There was then residing in London a granddaughter of the great poet, in deep poverty, for whose benefit it was arranged that the "Comus" of Milton should be produced in Drury Lane theatre. Johnson entered into the arrangement with characteristic zeal, and wrote the prologue for the occasion, which was spoken by Garrick. Early in the spring of 1752 a dark shadow was thrown over Johnson's otherwise brightening affairs by the death of his wife. Notwithstanding the disparity of their ages, it was evident that the passionate affection in which their union began had only on his part changed into a settled esteem, of which he gave sufficient proofs while she lived, but still more on the occasion of her decease. At her bedside he was so convulsed with grief that he seemed to lose all self-control till soothed by the exercises of religion; and yet while she lay a corpse awaiting burial he composed a funeral sermon to be spoken over her remains. His published "Prayers and Meditations" indicate the depth and permanence of his sorrow at that event. He contemplated his departed wife as only removed from his sensible observation, though probably not from his presence. He therefore prayed that, if agreeable to the will of God, he might be favored with her guardianship, and with intimations of her presence, "by appearances, impulses, dreams, or in any other manner agreeable to the divine government." In 1752 Johnson engaged with Dr. Hawkesworth in the publication of the "Adventurer," a series of periodical essays on the plan of the "Rambler." Of these 140 numbers appeared, 29 of which were written by Dr. Johnson. In 1755 the dictionary was completed. Lord Chesterfield, sensible of the value of a dedication from a man who was now acknowledged as one of the first living writers, tried to soothe Johnson's wounded pride and obliterate the remembrance of the coolness with which he had received the "Plan" by two laudatory letters in "The World," shortly before the work was printed. But Johnson's manly spirit rejected these tardy advances, and he addressed to his noble patron such a letter as only insulted dignity in distress could indite to supercilious meanness inflated with vanity. The dictionary was accordingly issued without a dedication. The original preface was at once a characteristic and a highly valuable essay. It enumerated some of the difficulties attending such a work, and the methods the author had used to overcome them, and also dwelt at some length upon his desolations, but only in the spirit of indomitable independence. The merits of Johnson's dictionary are too well known to require any statement in this place. It first brought order

out of the chaos of the language; and though it has been generally superseded by later compilations, yet the fundamental excellences of all modern dictionaries of the English language have their elements in that work, and its author must always stand the confessed founder of English lexicography.—The publication of the dictionary greatly enhanced its author's reputation, but it brought no relief to his finances. His poverty pressed upon him as painfully as at any former time. He was still compelled to labor unremittingly for the means of daily subsistence, and in one case was actually arrested for a debt of £5, and escaped imprisonment only through the solicited aid of a friend. Among other writings, he published at this time a large number of reviews in Newbery's "Literary Magazine." The proposal for an edition of Shakespeare made some years before, but not prosecuted, was renewed and a subscription opened, but the work still lingered on his hands through 9 years. He next engaged with the publishers of the "Universal Chronicle," a weekly newspaper, to furnish a series of miscellaneous essays, and the numbers of the "Idler," written by Johnson, appeared in regular order for two successive years, beginning in April, 1758. As compared with the "Rambler," the "Idler" is more sprightly and varied, but less profound and serious; its style is more natural and simple, but its matter is less valuable intrinsically. Of its 108 numbers Johnson wrote all but 12; but it was quite evident that they cost him but little more labor than the manual exercise of writing. In the spring of 1759 he issued "Rasselas, Prince of Abyssinia," probably the most celebrated of all his productions. Like many other of his works, this was the creature of an immediately pressing occasion. His mother, whom he had left in her widowhood at Lichfield more than 20 years before, and had never since visited, though he had shared with her his scanty income, died early in this year. Her death made a new demand on his purse, to meet which, in the evenings of one week, he wrote the whole of "Rasselas," and sent it to the printer as it was first written, receiving for it £100, out of which he paid the expenses of his mother's funeral. In its scene and imagery the story has an oriental character, but its style and matter are purely Johnsonian. The vanity of life, as in most of his moral writings, is the lesson it teaches, and over against this is placed the divine providence and the intrinsic excellence and practical worth of virtue. But if Johnson's literary labors had failed to provide him a competence, they had procured for him a greatly advanced social position, and secured him a large circle of admirers. His constitutional indolence had however become positively morbid, and he indulged in idleness just as far as his immediate necessities would allow. He seldom went abroad, lay in bed till past noon, and spent the rest of the day in promiscuous conversations with whomsoever called upon him; or moped in morbid melancholy if left

to himself, which, however, was not often the case. To his guests he devoted a large share of each afternoon, meanwhile regaling himself with his favorite tea, with which he solaced both his earlier and his later hours. Among his personal associates, and those who sought him at this period of his history, were several persons of distinction, and some whose names have come down to the present time, as Richardson the novelist, Garrick, Joshua Reynolds, Warton of Oxford (through whose good offices he had just before received the degree of M.A., which was first publicly recognized in the title page of the first edition of the dictionary), Baretti, Arthur Murphy, Dr. Charles Burney, Dr. (afterward Bishop) Percy, Bennet Langton, and Topham Beauclerk. He was all this time domiciled at Gough square, where he had passed the greater portion of the years of his residence in London. Here, some time before the decease of his wife, he had begun to gather about him a family group, which was afterward much enlarged, made up of a strangely assorted set of dependants and pensioners upon his charity. Mrs. Anna Williams, a blind lady, the daughter of a Welsh physician; "Doctor" Robert Levett, an odd little man who practised medicine among the poorest of the poor, and often received his fees in liquor; Mrs. Desmoulins and her daughter, who had no other claim upon his benevolence than the service which that lady's father, Dr. Swinfen, had rendered to Johnson in a professional capacity in his youth; and Francis Barber, his negro servant, were among the inmates of his house.—Johnson had an implicit belief in the supernatural and invisible world. He held the Christian faith with simplicity, and accepted the Bible as divine truth. The best balanced minds often find it difficult to define the precise line of demarcation between rational belief and superstition, and Johnson made no attempts at it. He practically adopted the maxim of certain church fathers, that it is safer to believe too much than too little. He believed in the existence of disembodied spirits, and that they might be manifested to our cognizance, and so he was ready to listen to evidence going to confirm such apparitions. A case of this kind occurred in 1763, which exposed Johnson to the ridicule of his enemies. Certain strange phenomena in the form of "rappings" about the bed of a young girl, in a house in Cock lane, Clerkenwell, caused a considerable excitement, and the rector of the parish, with "a number of gentlemen eminent for rank and character," of whom Johnson was one, attempted to solve the mystery. Their examinations satisfied them that the whole was a cheat and imposture, and Johnson afterward wrote out a statement of it for the "Gentleman's Magazine." But the affair was seized upon by Johnson's enemies, as exposing a vulnerable point for their attacks. Churchill, in his poem, "The Ghost," depicted Johnson in such broad caricature that it was at once recognized; and Foote the comedian proposed to

present him on the stage for the amusement of the town, but abandoned his purpose upon being assured that Johnson was preparing to chastise him if he undertook it.—In 1762 Johnson received from the king a pension of £300. He had so often in his own strong language stigmatized the whole business of giving and receiving pensions as the basest kind of bribery and espionage, that it seemed impossible that he should accept the royal bounty. But it being urged by his friends that the whole nation was his debtor for what he had written, and especially for the dictionary, and the premier assuring him that no service to the ministry would ever be expected from his pen in return for the favor, he allowed his scruples to be overcome. Early in 1765 the long promised and long delayed edition of Shakespeare made its appearance, enriched with an elaborate preface, discussing the genius and writings of the dramatist, and with a concise account of each play, and notes and commentaries, both original and selected, on various passages. But the work had been performed wholly as a task, and it was not such as the reputation of the editor had promised. He no doubt possessed many valuable qualifications for such a work, yet he was better adapted for original compositions, and in this case his powers were but moderately called into requisition. His own estimate of the work did not differ greatly from that of others. He had now fully attained the height of his ambition as a scholar and man of letters. His claim to the first place among his peers was cheerfully conceded to him with almost absolute unanimity. The university of Oxford, from which he sought in vain for the degree of M.A. when it would have been valuable to him, but which gave it unasked when he was able to do without it, now accorded a tardy recognition of his greatness by granting to him by diploma the degree of LL.D. He had received the same honor 10 years earlier from Dublin university; but after returning thanks for the honor, he declined to wear it, and would not consent to be called doctor till his own Oxford had given him the title.—About this time Johnson was introduced by Arthur Murphy to Mr. Thrale, a wealthy brewer of Southwark. Mr. Thrale was a man of a well cultivated mind, of sound judgment, and great force of character, and his wife, whose name has become intimately connected with Johnson's history, was also a person of some learning and of almost unbounded vivacity, flippant, versatile, and addicted to hero worship. The parties were mutually pleased with each other, and the acquaintance thus begun soon grew into friendship. Johnson dined with his new friends weekly during several succeeding months, when, having suffered somewhat by an attack of sickness, he was removed in 1766 to their residence, and had apartments assigned him in their house at Southwark, and also in their villa at Streatham. Mr. Thrale was a member of parliament for Southwark, and as his political creed was nearly

allied to that of his guest, Johnson became interested in the politics of the times, and there was at one time a purpose to bring him into parliament; the measure had his hearty concurrence, but the government, fearing that he would not prove sufficiently facile, did not encourage it, and so the design was abandoned. He accompanied his friends on their annual excursions, visiting various parts of the kingdom with them, and also making a visit of several weeks at Paris. His connection with this family not only brought him innumerable comforts and rational pleasures of which he must otherwise have been deprived, but it also afforded him a retreat from his own strangely assorted household, where strifes and complaints were loud and frequent. It continued till it was virtually broken up by the death of Mr. Thrale, who left no son, and the subsequent marriage of his widow to Signor Piozzi, greatly to the chagrin of her numerous friends.—A few years previous to his connection with the Thrales, Johnson had formed another association, by which his future renown was to be very largely affected. In 1763 James Boswell, then a young man of 22 or 23, the son of a Scotch judge in the court of session, visited London, inflamed with a romantic passion to make the acquaintance of its great men; and by diligent efforts he at length obtained an introduction to Johnson. Boswell had but little that adapted him to command even ordinary respect. He was loose in his manner of living, and still more so in his conversation; conceited, meddling, and inquisitive; a sycophantic worshipper of greatness, real or imaginary, yet strongly endowed with an insight into character, and a reverential appreciation of qualities the furthest possible removed from his own. Johnson, absurdly enough, fancied this madcap lion-hunting young Scot on first acquaintance, and of course Boswell at once fastened himself upon his venerable friend. They were together almost daily from the time of their first meeting till Boswell was compelled to leave the city, rambling in the parks, supping together at the Mitre tavern, Johnson's principal resort, or wandering the streets till after midnight. Johnson was glad to have somebody as idle as himself to listen to him, and to submit to his exactions; and Boswell was quite ready to purchase the favor of the company of a great man at almost any price. From that time to the death of his great friend, Boswell lived in Johnson's shadow. Whenever it was possible he was with him, following him wherever he went, noting his words, describing his manners, and detailing the most trivial occurrences; all of which were afterward embodied in his "Life of Johnson," at once the best and the worst of biographies. It is by Boswell's biography much more than by the dictionary or the "Rambler," or even by "Rasselas" and the "Vanity of Human Wishes," that Johnson is known to the present generation; and while the biographer has immortalized his own name as a proverb of con-

tempt, he has doubtless permanently damaged the reputation of his subject by presenting his foibles in caricature.—The founding of the "Literary Club," an institution intimately associated with the name of Johnson, belonged to this period. Reynolds took the lead in the movement, and so was called their Romulus; but Johnson was the Nestor, the Ajax, and perhaps in some sense the Thersites of the host. Among the original 9 members were Sir John Hawkins, Langton, Beauclerk, Goldsmith, and Burke. Goldsmith had a few years before become somewhat intimate with Johnson, by whom he was greatly esteemed as a writer, and cherished as an associate. Burke, too, had not long before made Johnson's acquaintance, while living as a literary adventurer among the booksellers; and though the two were widely removed from each other by diversity of age, and still more by their opinions, yet Johnson highly appreciated his young friend's genius, and from scarcely any other was he so tolerant of opposition. During its earlier years the club held weekly meetings for conversation, which contributed not a little to maintain the balance of Johnson's strangely affected mind. New members were admitted with great caution, and for several years the whole number did not exceed 12. In 1778 it had grown to 26, and two years later to 35, when 40 was fixed as its complement. The club is still in existence, but it has become rather a learned than a convivial society. Johnson's indolent and purposeless mode of life proved highly unfavorable to his spirits. His "Prayers and Meditations," published since his decease, indicate the unhappy state of his mind. He was accustomed to write bitter things against himself in his penitential moments, and especially during Lent, which he observed somewhat exactly, as a preparation for the sacrament, which he usually received on Easter Sunday. Sometimes his melancholy assumed the form of a diseased condition, and verged almost on insanity; and again he would pass suddenly to the opposite extreme, and give way to the most extravagant bursts of hilarity. His ordinary manners, especially in his later years, were strangely eccentric. He talked much to himself, muttering in a vocal but generally inaudible undertone. He was never still, but sat with head inclined over the right shoulder, his vast trunk swaying backward and forward, and his hand keeping up a corresponding motion upon his knee. At times he would make a kind of clucking sound, and again a suppressed whistle, and still more frequently a humming noise, accompanied with a vacant smile. His conversation was often violent and discourteous in manner, and he delighted in contradictions. These were the troublesome remains of his early mental disorders, and among his more intimate friends they were understood and reckoned harmless. During the years from 1770 to 1775 he produced several rather important political pamphlets, all in the interest of the government, and designed to meet some immediate necessity. In

1770, at the time of the excitement caused by the affair of John Wilkes, Johnson wrote the "False Alarm," defending the action of the house of commons in vacating Mr. Wilkes's seat; but he failed to satisfy the nation, or permanently to sustain the position assumed by the dominant party. In 1771 he published "Thoughts on the Falkland Islands," to dissuade the nation from going to war with Spain for that remote and valueless possession. Just before the general election of 1774 he published the "Patriot," to persuade the electors that those who opposed the ruling administration were not true to their country, and therefore should not be intrusted with power. Last of all, in 1775, he published "Taxation no Tyranny," in opposition to the remonstrance of the American congress against the action of the government in taxing the colonies without their consent. He fully sustained the ministry in all their measures against the colonies, and predicted the speedy subjection of America to the power of the mother country. In these several tracts Johnson uttered the same political sentiments that he had uniformly professed through his whole life; for from the first he was a high tory, and as he wrote only his own opinions, so he did it without solicitation or reward from the government. In 1778 he made a tour to the highlands of Scotland and the Hebrides, which was undertaken by the persuasion of Boswell, who became his fellow traveller, and afterward the chronicler of the journey, of which an account was also written by Johnson. He had always entertained an unreasoning prejudice against everything Scotch, and seemed now to go out to explore what he had already condemned. The next year he made a tour in Wales with Mr. and Mrs. Thrale. While in Scotland Johnson made inquiries respecting the original manuscripts from which Mr. Macpherson pretended to have translated the poems of Ossian, and came away confirmed in the conviction that a large share of that work was a forgery, and the rest of comparatively modern origin. His avowal of this conviction after his return raised a great noise among the admirers of that production, and led to a violent controversy between himself and the professed translator, which scarcely stopped short of a physical encounter. His last considerable literary work, the "Lives of the English Poets," in 4 volumes, appeared from 1779 to 1781, when their author was over 70 years old—a series undertaken at the request of the booksellers, and performed dilatorily and by irregular impulses. In some respects this was one of the best written of all his works, simple in its style, genial and appreciative in its spirit, and full of interesting statements and valuable criticisms.—About the date of the close of that work the hand of death began to be busy with those about him. Mr. Thrale died in 1781, of which event he wrote: "I looked for the last time upon the face, that for 15 years had never been turned upon me but with respect and benignity. Farewell! May God,

that delighteth in mercy, have had mercy upon thee." A few months later he removed to his own house. In 1782 Levett died, and a year later Mrs. Williams followed him. Some time before the last event he had suffered from a partial paralysis of the vocal organs, from which however he soon recovered. In the latter part of the same summer he once more visited his native town; but as winter drew on he was again brought down, and his whole system became swollen with droopy. By the assiduity of his friends, and skilful medical treatment, he so far recovered that during the next summer he visited Derbyshire and was again at Lichfield. Late in the following autumn he grew worse. To physical suffering he was comparatively indifferent, and when near his end he earnestly entreated his attendants to spare no efforts, however painful, to prolong his life. He anticipated death with an awful horror, and with most piteous moanings and tears he prayed for mercy; but as his last hour approached his forebodings at length gave place to humble confidence in the divine clemency.—Few names are more conspicuous in the annals of English literature than that of Dr. Johnson, of which he adorned almost every department. Though scarcely reckoned among English poets, his productions in that department sufficiently vindicate his claim to a recognition, and not a few judicious critics have believed that with equal devotion to that kind of writing he would have rivalled Pope or Dryden. As an essayist he is ranked with Addison and Steele, whom he imitated only as to the form of his pieces, impressing whatever he thus wrote with his own individuality. He lacked their vivacity and variety, and especially their genial good humor, but surpassed them in depth of reflection and nervous energy of style. He especially excelled in biographical writing, and among his numerous sketches of personal histories and mental portraits are some that may be studied as models of their kind. As a critic, his judgment was clear and discriminating, and such was his independence that he often condemned the popular favorites of the day, and in most cases posterity has confirmed his decisions. His fictions are chiefly moral allegories; for so fully was he intent on inculcating the practical lesson of life, that it was constantly before him, and gave form and coloring to his purely imaginative productions.—The only complete edition of Johnson's works is in 11 vols. 8vo. (Oxford, 1825). There is an edition by Sir John Hawkins with a life (15 vols. 8vo., London, 1787-9), and a good collection, comprising nearly all his writings except the parliamentary debates, with a life by Arthur Murphy, in 2 vols. 8vo. (London and New York).

JOHNSON, WALTER ROGERS, an American physicist, born in Leominster, Mass., in 1794, died in Washington, D. C., April 26, 1852. He acquired means to fit himself for college by teaching in the public schools, and was graduated at Harvard in 1819. He was principal of the Framingham academy for a year, devoting his leisure

to the study of law and belles-lettres, and then took charge of a small classical school at Salem, Mass., intended to prepare gentlemen's sons for business. In 1821 he became principal of the academy at Germantown, Penn. For 5 years, during which the academy constantly increased in reputation and prosperity, his vacations and most of his leisure hours were devoted to travelling through the state, gathering facts and statistics bearing upon the subject of popular education, securing the coöperation of the most prominent men in the state in the common school cause, and publishing several essays on the subject. In 1826 the Franklin institute determined to establish a high school in Philadelphia, with the special purpose of affording the industrial classes cheap instruction in sciences and arts, and requested Mr. Johnson to draw up a system of instruction for them, and take the chair of mechanics and natural philosophy in the school. He accepted the invitation, and removed to Philadelphia. He added to his instructions in the school a public course of lectures on mechanics and philosophy, under the direction of the institute, which were largely attended by both sexes. His efforts in behalf of common schools were also continued, and in 1834 he saw them crowned with success. About 1836 the high school was superseded by a general school system, but Mr. Johnson's course of lectures was continued. In the mean time he had been engaged in scientific researches on the strength of materials and the best construction of steam boilers, on steam, heat, electricity, magnetism, &c. His investigation on the greater strength of iron after powerful tension at an increased temperature, was begun at the order of the U. S. government, but never completed. In 1836 he commenced a series of geological investigations, with special reference to the coal formations and iron ores of Pennsylvania. In 1837 he was appointed to take charge of the department of magnetism, electricity, and astronomy in the U. S. exploring expedition, and resigned his professorship to prepare for these duties; but the subsequent changes and reduction of the original plan led to the dissolution of his connection with it. He pursued his investigations meantime in geology, and in 1839 was appointed to the chair of chemistry and physics in the medical department of the university of Pennsylvania. He retained this professorship 4 years, when he resigned it to enter upon a course of investigations, under the authority of congress, into the character of the different varieties of coal, and their absolute and relative values for generating steam and heat, and producing illuminating gas. His report on this subject was published in 1844. He subsequently made scientific researches on other subjects connected with the navy department, such as floating docks, steamboat explosions, the corrosion of sheathing copper, &c.; and in 1845, under appointment of the city authorities of Boston, he examined the sources from which a supply of pure water might be

brought to that city. For the next 8 years he was engaged in preparing and adapting to American wants several of the works of the German physicists Knapp, Müller, and Wiesbach. He participated in the organization of the American association of geologists, and, at its subsequent reorganization as the American association for the advancement of science, was its first secretary. In 1848 he removed to Washington, and in 1851 visited Europe, where he was connected with the London world's fair.

JOHNSON, SIR WILLIAM, baronet, superintendent-general of Indian affairs in North America before the American revolution, colonel of the Six Nations, and a major-general in the British service, born in Smithtown, co. of Meath, Ireland, in 1715, died at his residence near Johnstown, Tryon (now Fulton) co., N. Y., July 11, 1774. He was a younger son of Christopher Johnson, an Irish gentleman of good family. Educated with a view to a mercantile life, his career was entirely changed by the refusal of his parents to permit him to marry a lady with whom he had fallen in love. His uncle, Admiral Sir Peter Warren, had married a daughter of Étienne De Lancey of New York, and received with her a large landed estate in that colony, which he increased by purchase, chiefly in the valley of the Mohawk, then a perfect wilderness. Sir Peter offered his nephew the management of his entire property in New York, if he would undertake its improvement and settlement. Johnson accepted the offer, and in 1738 established himself upon a tract of land on the south side of the Mohawk, about 24 miles from Schenectady, which Sir Peter had called Warrensburgh. In addition to the settling and improving of the country, he embarked in trade with the Indians, whom he always treated with perfect honesty and justice. He would never deal with them when they were under the influence of liquor, nor yield to them any thing when he had once refused. This course, added to his easy but dignified and affable manner, and the intimacy which he cultivated with them, by accommodating himself to their manners, and sometimes even to their dress, soon won for him their entire confidence, so that he acquired an influence over them greater than was ever possessed by any other white man. He became a master of their language, speaking many of their dialects as perfectly as they did themselves, and was thoroughly acquainted with their peculiar habits, beliefs, and customs. He was adopted by the Mohawks as one of their own tribe, chosen a sachem, and named Wariaghejaghe, or War-raghiaghy, "he who has charge of affairs." The mismanagement of the commissioners to whom the Indian affairs of the province had been committed, and who were always citizens and traders of Albany, led to the suppression of the commission at the outbreak of the French war in 1748, and the appointment of Johnson as sole superintendent of the Indians; and though he narrowly escaped assassination by the French on more than one occasion, he preserved the

entire western frontier of the colony from injury until the conclusion of the peace of Aix la Chapelle in 1748. In 1750 he was appointed a member of the provincial council. The revival of the Albany board of commissioners in 1753, after his resignation of his office at the conclusion of the war, led to a quarrel between the colonists and the Indians, and the council and assembly urged Col. Johnson to effect a reconciliation. The governor having granted him a new commission, July 5, 1753, he proceeded to Onondaga, held a council, and succeeded in settling the difficulty, but declined having any thing further to do with Indian affairs. He lived at this period at Fort Johnson, a large stone dwelling which he had erected upon the north side of the Mohawk river, directly opposite to Warrensburgh, and which he had fortified in 1743 at the commencement of the old French war. It is now (1860) standing in good preservation, about three miles west of the present village of Amsterdam. In 1754 he attended as one of the delegates from New York the celebrated congress of Albany, and also the great council held with the Indians on that occasion, at which they strongly urged his reappointment as their superintendent. At the council of Alexandria, April 14, 1755, he was sent for by Braddock and commissioned by him "sole superintendent of the affairs of the Six United Nations, their allies and dependants." He was also, pursuant to the determination of that council, created a major-general, and commander-in-chief of the provincial forces destined for the expedition against Crown Point. At the head of these forces, in Sept. 1755, he defeated Baron Dieskau at Lake George, and destroyed his army. Johnson was wounded in the hip, but remained on the field of battle. This victory not only saved the colony from the ravages of the French, but prevented their making any attack upon Oswego, and went far to counteract Braddock's disastrous defeat on the Monongahela in the preceding July. Gen. Johnson received the thanks of parliament for his victory, was voted £5,000, and on Nov. 27, 1755, was created a baronet of Great Britain. It was on his arrival at Lake St. Sacrement a few days before this battle, that he gave to it the name of Lake George, "not only in honor of his majesty, but to assert his undoubted dominion here." In March, 1756, he received from George II. a commission as "colonel, agent, and sole superintendent of the affairs of the Six Nations, and other northern Indians," with a salary of £800, paid by the mother country. He held this office for the rest of his life. In 1756 and 1757 he was engaged with his Indians in the abortive attempts of the British commanders to relieve Oswego and Fort William Henry; and in 1758 was present with Abercrombie at the repulse of Ticonderoga. Gen. Prideaux led the expedition against Fort Niagara in 1759. Sir William Johnson was second in command, and upon the death of Prideaux, before that fort, succeeded to the com-

mand in chief. With upward of 1,000 Indian allies he continued the siege with great vigor, cut to pieces the French army sent to its relief after a sanguinary combat, and then summoned the garrison, which surrendered at discretion. He led the same Indian allies the following year in the Canadian expedition of Amherst, and was present at the capitulation of Montreal and the surrender of Canada to the British arms in 1760. The war was now at an end, and the king granted to Sir William for his services a tract of 100,000 acres of land, north of the Mohawk, long known as "Kingsland," or the "Royal Grant." In 1764, the country being at peace, and the Indians perfectly contented, Sir William erected Johnson hall, the large wooden edifice still standing near the village of Johnstown, a few miles north of Fort Johnson. The laying out of the village of Johnstown, and the building of stores, an inn, a court house, and an Episcopal church, soon followed. Numerous settlers were brought in, the surrounding country was improved, and in three years Johnstown became a thriving village, and in 1772 the shire town of Tryon co. He bestowed great attention upon agriculture, and was the first who introduced sheep and blood horses into the valley of the Mohawk. He lived in the style of an old English baron of former days, and exercised the most unbounded hospitality. He married Catharine Wisenburgh, a German girl, about 1740, who died young, leaving him a widower with three children, a son, John, knighted in 1765, and two daughters, who married respectively Col. Claus and Col. Guy Johnson. Sir William never married again. He had for some years many mistresses, both Indian and white; and one of his earlier ones, also a German, has been the probable cause, from having been confounded with his wife, of the erroneous statement that none of his children were legitimate. He finally selected from among the Mohawks Mary, or as she is generally called "Molly" Brant, the sister of Thayendane-ga or Joseph Brant, the great Mohawk sachem, whom he took to his house and with whom he lived happily till his death. They were never legally married, though such a statement has been made. He had 8 children by her, whom he provided for by his will, in which he calls them his natural children, and he also provided for their mother by the same instrument. He died suddenly after making a long speech at an Indian council at Johnson hall. His death has been ascribed to poison, administered by his own hand, to avoid being compelled to take part either against the colonies or against the king. But his health had been failing for several years, and the testimony of eye-witnesses, and the official documents connected with the event, recently given to the world in the "Colonial History of New York," leave no doubt that it was owing to natural causes entirely.—SIR JOHN, son of the preceding, born in 1742, died in Montreal, Canada, Jan. 4, 1830. He succeeded to his father's title in 1774, and was at

the same time appointed a major-general in the British service. In the revolutionary war he remained loyal to the crown, and used his influence with the Indians to inflict frequent injuries upon the frontier settlements of New York, in retaliation for the sequestration of his large estates in the Mohawk valley. He was governor of Upper Canada for several years subsequent to 1796.

JOHNSON, WILLIAM, an associate judge of the supreme court of the United States, born in Charleston, S. C., Dec. 27, 1771, died in New York, Aug. 4, 1834. His father was a merchant, and prominent in the movements of the revolution in his native state. The family, of English descent, had adopted the name of Jansen instead of Johnson in Holland, and continued to bear it for a time in the new world. He was educated at Princeton college, under the presidency of Dr. Witherspoon, and was graduated in 1790 with the highest honor. Returning to Charleston, he began the study of law under the guidance of O. C. Pinckney, was admitted to the bar in 1792, and soon became distinguished in his profession. In 1794 he was elected to the state legislature, and was twice reelected, being during his last term speaker of the house. It was chiefly by his efforts that the office of comptroller-general was instituted. He investigated the irregular and arbitrary proceedings of the county courts, and when they were superseded by the present circuit courts he was elected one of the judges of the new establishment. When Jefferson was elevated to the presidency, Johnson was made one of the judges of the federal court, with the local jurisdiction of South Carolina and Georgia. Coming into possession of the papers of the revolutionary general Nathanael Greene, he prepared at the request of the family an elaborate work entitled "Sketches of the Life and Correspondence," &c. (2 vols. 4to., Charleston, 1822). The work included a preliminary survey of the causes of the revolution and the state of parties, and especially a comprehensive and authoritative review of the proprietary and colonial history of South Carolina, displaying not only thorough historical research, but a keen and sagacious critical judgment. His numerous episodic disquisitions, however, render the task of following the events of the biography tedious and laborious. A certain national or federal bias also, a proclivity toward a decided centralism, was thought to lead him occasionally to ignore the rights of the states; yet he was always a consistent member of what was called the republican party. His position as a judicial officer of the United States operated to prevent his participation in the controversy between South Carolina and the federal government (1830-'32), but he was keenly alive to its issues and greatly excited in its progress, and forbore only with great effort from engaging in the discussion. He submitted to a surgical operation in New York, under which he died. He was married early in life to Sarah, eldest daughter of Thom-

as Bennett, at one time governor of South Carolina.—JOSEPH, brother of the preceding, an American physician, politician, and man of letters, born in Charleston, S. C., June 15, 1776. After the surrender of Charleston to the British in 1780, he shared the exile of his mother, who with many other non-combatant Carolinians took refuge in Pennsylvania. His father was one of the prisoners of war on parole, who in violation of the terms of capitulation were consigned to a prison ship and finally transferred to St. Augustine. Joseph returned with his family after the close of the war to Charleston, where he received his education. In 1793 he began the study of medicine under Dr. Elisha Poinsett, and subsequently attended the lectures in the university of Pennsylvania, applying himself especially to chemistry and botany. He was graduated there in 1797, defending an experimental thesis on carbonic acid gas. He immediately began the practice of medicine in Charleston in connection with Dr. Poinsett. In 1818 he retired from his profession in order to take charge of the branch bank of the United States at Charleston, of which he was made president, and retained that office till the discontinuance of the bank in 1835. During this period he was prominent also as a citizen and man of letters, eagerly devoting himself to public services in the cause of literature and education, and taking an active part in the exciting political struggles. For many years he was commissioner of the public schools; has been president of the apprentices' library association from its establishment in 1836; and has been for more than 60 years a member of the South Carolinian society, and for 20 years its presiding officer. He was elected a member of the medical society of South Carolina in 1797, and its president in 1807; and he was one of the most efficient collaborators of the literary and philosophical society. In these several causes he has published numerous essays, treatises, and orations. For a long period he was mayor of Charleston, serving without fee or salary. He was one of the active leaders of the union party in the nullification controversy. His most important and best known publication is entitled "Traditions and Reminiscences of the Revolution" (Charleston, 1851), in which he gives, in an easy, unpretending style, his own recollections and accumulations concerning the revolutionary actors, chiefly in the South.

JOHNSON, WILLIAM BULLIEN, D.D., an American clergyman, born on John's island, near Charleston, S. C., June 13, 1782. On leaving school he studied law. In 1804 he joined the Beaufort Baptist church, was ordained in Jan. 1806, and became pastor of the Eutaw Baptist church, one of the oldest in the state. In 1809 he settled in Columbia, where he built a house of worship and organized a church. He held for a few years a pastoral charge in Savannah, Ga.; but a change of health induced his return to Columbia in 1816. In 1822 he took charge of the female academy at Green-

vile, S. C., and, after remaining there 8 or 9 years, resided about 20 years at Edgely, S. C., in ministerial labor, and a large part of the time teaching a female high school. He subsequently spent a few years in Anderson, S. C., where a flourishing female university is named in honor of him. He has again fixed his abode at Greenville, preaching occasionally, and still cherishing an active interest in educational and religious enterprises. His industrious and systematic habits and a good constitution have preserved the brightness of his faculties at the age of 78. The degree of D.D. was conferred on him by Brown university in 1883. His publications consist of a few sermons, circulars, addresses of the Baptist state convention of South Carolina, a series of articles on justification, a small work on the "Development of the Gospel of Jesus Christ through the Government and Order of the Churches," and a series of articles in the "Southern Baptist," in which the same subject is more fully treated. He wrote in 1886 in favor of revising the English Bible, and is now a life member of the Bible revision society. He was one of the presidents of the general Baptist convention of the United States formed in 1814, and amicably divided into northern and southern organizations in 1845. He was the first president of the latter. For 27 years he presided over the Baptist convention of South Carolina.

JOHNSTON, a central co. of N. C., drained by Neuse and Little rivers; area, 660 sq. m.; pop. in 1850, 13,726, of whom 4,663 were slaves. It has a diversified surface, and contains iron ore and granite. The productions in 1850 were 451,528 bushels of Indian corn, 5,354 of wheat, 197,298 of potatoes, and 753 bales of cotton. There were 5 grist mills, 6 saw mills, 6 newspaper offices, 19 churches, and 1,086 pupils attending public schools. Capital, Smithfield. The N. Carolina railroad traverses the county.

JOHNSTON, ALBERT SIDNEY, an American soldier, born in Mason co., Ky., in 1808. He was graduated at the West Point academy in 1826 as lieutenant in the 6th infantry, and after serving in the Black Hawk war left the army, and in 1836 emigrated to Texas, arriving there shortly after the battle of San Jacinto. He entered the Texan army as a private soldier, and was soon promoted to succeed Gen. Felix Houston in the chief command—an event which led to a duel between them, in which Johnston was wounded. Having held the office of senior brigadier-general until 1838, he was appointed secretary of war, and in 1839 organized an expedition against the Cherokees, who were totally routed in an engagement on the river Neches. In 1840 he retired from office and settled upon a plantation in Brazoria co. He was an ardent advocate for the annexation of Texas to the United States. In 1846, at the request of Gen. Taylor, he took the field against Mexico as commander of a volunteer Texan rifle regiment, in which capacity he served 6 months. Subsequently he was acting inspector-general to Gen. Butler, and for his services at the siege

of Monterey received the thanks of his commander. In Oct. 1849, he was appointed paymaster by President Taylor, with the rank of major; and upon the passage of the act of congress authorizing the raising of additional regiments in the army, he was appointed colonel of the 2d cavalry. In the latter part of 1857 he received the command of the U. S. forces sent to coerce the Mormons into obedience to the federal authority, and conducted the expedition in safety to Great Salt Lake City in the spring of the succeeding year. He has since then commanded the military district of Utah, and has received the brevet rank of brigadier-general.

JOHNSTON, ALEXANDER KEITH, a Scottish geographer, born in Kirkhill, Mid-Lothian, Dec. 28, 1804. He was educated in Edinburgh, and then apprenticed to an engraver, but soon manifested a decided taste for the study of geography. That he might be able to consult the highest geographical authorities in the original, he made himself master of the French, Italian, Spanish, and German languages. His first important work was the "National Atlas" (1843), which procured his election to the royal geographical society, and his appointment to the office of geographer to the queen for Scotland. In 1848 his "Physical Atlas" was published, and immediately after its appearance Mr. Johnston was chosen member of the *Gesellschaft für Erd-Kunde* of Berlin, of the geographical society of Paris, and of the geological society of London. His other principal works are: a "Dictionary of Geography" (2d ed. 1855); a "Geological Map of Europe," in the preparation of which he was aided by Sir R. I. Murchison and Prof. Nichol; "Atlas of North America" (1858); and "Military Atlas to Alison's Europe;" and he is now bringing out (1860) the "Royal Atlas of Modern Geography," in 10 parts.

JOHNSTON, ARTHUR, a Scottish physician and Latin poet, born at Oaskieben, near Aberdeen, in 1587, died in Oxford in 1641. After studying at the university of Aberdeen, he went to Padua, where he completed his education in 1610. He then travelled for some time in southern and central Europe, and resided for 20 years in France. About 1635 he returned to Scotland, and was appointed physician to Charles I. In 1637 he became principal of the university of Aberdeen, but his duties as royal physician requiring his residence at court, the greater part of his subsequent life was passed in England. His principal productions are his *Parerga et Epigrammata* (Aberdeen, 1632); *Cantici Solomonis Paraphrasis Poetica* (London, 1633); and *Paraphrasis Poetica Psalmorum Davidis* (Aberdeen, 1637).

JOHNSTON, GABRIEL, a colonial governor of South Carolina, born in Scotland about the end of the 17th century, died in 1752. Very little is known of his personal history. He was educated at the university of St. Andrew's, with a view to the medical profession, which he seems not to have practised. He was for a while professor of oriental languages at St. An-

drew's, and then removed to London, where he was engaged with Pulteney and Bolingbroke in writing for the "Craftsman." By the influence of the earl of Wilmington he was appointed governor of North Carolina, and took the oaths of office at Brunswick, Nov. 2, 1784. He was the ablest and most successful of all the colonial governors, holding the reins of power up to the time of his death.—SAMUEL, an American lawyer and statesman, nephew of the preceding, born in Dundee, Scotland, Dec. 15, 1788, died near Edenton, N. C., in 1816. His father, John, came to North Carolina in 1786, became surveyor-general, and acquired large landed estates. The son chose the profession of the law, and was clerk of the superior court in Chowan co. for 5 years from 1767, and served there also as naval officer under the crown. He soon became prominent both as a lawyer and as a politician. He was elected to the assembly in 1769, when the province was much disturbed by matters connected with the war of the regulation. From the first he espoused the popular side, and was especially conspicuous in the opposition to Gov. Martin. In 1773 the assembly placed him on its standing committee of inquiry and correspondence, the organ by which it sought to coöperate with the other provinces. This was the first decisive step toward revolution taken by the legislature of North Carolina. He was an active member of the first two provincial congresses in this province. The 3d and 4th met at his summons, and he presided over the deliberations of both. In the 3d, Aug. 1775, the political organization of the province was decided on, and the supreme executive authority was intrusted to a provincial council, of which he was made the chairman, and so virtually the governor of the province. In Sept. 1775, he was chosen treasurer for the N. district of North Carolina. The 4th provincial congress made him chairman of the committee to prepare a permanent constitution for the future state. As the committee could not agree, another congress was called at Halifax, Nov. 12, 1776, for this special purpose, and to organize the government thereupon. To this congress Mr. Johnston was not elected. Parties were now definitely formed, and he was charged with leanings toward aristocracy; and it is said that the whole force of the radical party was directed to the single object of defeating him. In 1781-2 he was a member of the continental congress. In 1787 he was elected governor of the state, and in 1788 presided over the convention which rejected the federal constitution, which, however, he supported with all his influence. In 1789 he presided over the convention which adopted the federal constitution. He was the 1st U. S. senator from North Carolina, and held that office from 1789 to 1793. In Feb. 1800, he was appointed judge of the superior court, which post he resigned in 1808.

JOHNSTON, GEORGE, a Scottish naturalist, born in 1798, died at Berwick-on-Tweed, July 8, 1855. After serving a medical apprentice-

ship with Dr. Abercrombie of Edinburgh, he entered the university of that city, where he was graduated in 1819. Subsequently he settled as a medical practitioner at Berwick-on-Tweed. Amid many arduous professional duties, he cultivated natural history with an enthusiasm and a success which rendered the place of his residence "one of the most classic localities in Great Britain." Apart from numerous papers contributed to the "Edinburgh Philosophical Journal" and other scientific periodicals, he published two works of first-rate importance: "History of British Zoophytes" (2d ed., 2 vols. 8vo., London, 1847), and "History of British Sponges and Lithophytes" (8vo., 1842). In 1850 appeared his "Introduction to Conchology," with an abundance of illustrations. His latest work was "The Natural History of the Eastern Borders" (vol. i., "Botany," 8vo., 1854), and he was engaged at the time of his death upon a complete work on British annelids. He is considered one of the most accomplished contributors to the literature of natural history, and was one of the founders of the Ray society.

JOHNSTON, JAMES F. W., a Scottish chemist and agricultural writer, born in Paisley about 1796, died in Durham, England, Sept. 18, 1855. When a young man he supported himself by preparing students for the Glasgow university, and in 1825 he established a school at Durham. In 1830 he married, gave up his seminary, and, repairing to Sweden, became a pupil of Berzelius. On his return he settled in Edinburgh, and was appointed chemist to the agricultural society of Scotland, filling at the same time the office of lecturer on chemistry and mineralogy in the university of Durham. After the dissolution of the society he removed to Durham, and devoted himself chiefly to the composition of works on agricultural chemistry. He subsequently visited the United States and France. His works are: "Elements of Agricultural Chemistry and Geology" (8vo., Edinburgh, 1842); "Suggestions for Experiments in Agriculture" (8vo., 1843); "Catechism of Agricultural Chemistry and Geology" (16mo., 1844; translated and used as a school text book in most countries of Europe and America); "Lectures on Agricultural Chemistry and Geology" (8vo., 1844); "Contributions to Scientific Agriculture" (8vo., 1849); "Treatise on Experimental Agriculture" (8vo., 1849); "Use of Lime in Agriculture" (8vo., 1849); "Notes on North America, Agricultural, Economical, and Social" (2 vols. 8vo., 1851); "Instructions for Analysis of Soils, Limestone, &c." (12mo., 3d ed. 1855); "Chemistry of Common Life" (2 vols. 8vo., 1854-5). Of several of these many editions have been printed both in Great Britain and America.

JOINT STOCK COMPANY. This name usually designates a partnership in which the capital is distributed by shares among a large number of partners. They assume in certain respects a corporate form, but possess legally none of the peculiar attributes or powers of corporations.

Like these, however, they adopt a corporate name; divide a fixed capital into shares, which they make transferable by assignment and delivery; and commit the conduct of their business to a board of directors. It is also sometimes stipulated in the fundamental articles of the association, that no member shall be liable for the company's debts beyond the amount of his shares. So far as the partners alone are concerned, they may adopt what rules they will for the internal administration of the partnership. But their imitation or assumption of corporate powers or responsibilities cannot avail them in law, except so far as recent legislation favors them, or prejudices the rights of third parties. They remain partnerships, and are generally subject to the rules of law which govern partnerships. Thus, such a company cannot sue its shareholders at law for breach of their engagements to it; for as copartners of the plaintiffs, they cannot be made liable, according to the rules of pleading, in such a suit; they must therefore resort to the intervention of trustees in order to avail themselves of contracts made or to be made with their members. They cannot proceed in law or in equity by their corporate name. And they are bound by that familiar rule of partnership law, which no mere mutual agreement can evade, that each member of the association is liable as a partner *in solido*, or to answer, with his whole private property, for all the debts of the partnership. It is doubtful whether this rule would be changed even though the creditor dealing with the company have notice of a stipulation in the articles of association limiting the responsibility of the members to the mere joint funds, or to a qualified extent. In recognition of the advantages secured to the community by the combination of capital in the prosecution of important enterprises, and in view of the embarrassments to which they are subjected by the operation of the rules of law, joint stock companies have received both in England and in the United States some assistance from legislation. In England, the statute 7 and 8 Victoria, c. 110, conferred upon them a qualified corporate character. They thus acquired a separate legal assistance apart from that of their individual members, and became bodies corporate for the purposes of carrying on their business, of taking and holding a common property, and of suing and being sued. The statute of New York which controls these associations is of a somewhat similar character. Neither of these acts, however, exempts the members from their ordinary partnership liability for the whole debts of the company; though the English act provides that the common property shall be first applied to the satisfaction of such debts. In Massachusetts and some other states, joint stock companies, in common with other trading associations, which possess the required capital and embrace a prescribed number of members, and in other respects conform to the conditions of the statute, may become corporations, with all their characteristic pow-

ers, privileges, and incidents. Thus, in fact, they cease to be partnerships or joint stock companies, and are brought under the general statute which governs corporations of this kind.

JOINT TENANTS, persons to whom a single estate is granted jointly by the same deed or will, and without any exclusive restrictions or explanatory words. The grant can take effect in such a case only by considering that all the grantees have equal interests, and that each has the entire possession of the whole estate. For between the grantees there is a unity: 1, of title, the estate being derived from one and the same conveyance; 2, of time, for it was created and vested in them at the same period; 3, in respect to interest, for it is a single estate which was conveyed; 4, in respect to possession, for the estate is to be enjoyed in common during the same time. It was the distinguishing incident of joint tenancies that, upon the death of his co-grantees, the estate passed undiminished to the last survivor. This is the so called *jus accrescendi*, or right of survivorship. It originated in the feudal law, the policy of which was averse to the division of tenures, and to the distribution of the feudal services among tenants who might be strangers to the lord. The rules of law in relation to joint tenancies were strictly upheld for a long time by the courts of common law, but were regarded with less favor in proportion as the law of tenancies was modified. Joint tenancies, with all their incidents, have been but little recognized in the United States; and the incident of survivorship is very generally abolished. It is the rule in most states, that all estates conveyed to two or more persons are to be deemed tenancies in common, unless a different tenure is clearly expressed or implied in the instrument creating the estate. And even a joint tenant may usually transfer his share, and the transferee will hold it as a tenant in common. A proper exception is made in the cases of estates vested in trustees or executors, as such, who are still joint tenants, because the proper execution of the trust requires the right of survivorship. By the law of joint tenancy, the possession and control of the property remain with the survivors, instead of passing to the representatives of a deceased trustee. Nor can a trustee, by his mere assignment, put another person in his place, and confer upon him his powers. (See TRUSTS.)

JOINVILLE, JEAN, sire de, a French chronicler, born at the chateau of Joinville in Champagne in 1224, died in 1319. Belonging to a noble family, he early entered the service of Thibaut IV., king of Navarre, the most renowned trouvère of his time, and in a few years he assumed the hereditary office of seneschal. In 1248 he obeyed the summons of Louis IX. of France, took the cross, and enlisted 3 bannerets, 6 knights bachelor, and 700 men-at-arms, with whom he sailed from Marseilles and joined the king in Cyprus. During the winter of 1249-'50, which the crusaders spent there, the seneschal had frequent intercourse with the king,

from which sprang a deep and mutual affection. Joinville was in the first rank when the French army effected its landing at Damietta, in Egypt, on Easter Monday, 1250; and at the head of his men he kept at bay a body of 6,000 Saracens. He fought at the disastrous battle of Mansoorah, was taken prisoner with the king in his retreat toward the sea, barely escaped death, and was finally liberated with his master. He accompanied Louis to Palestine, where they sojourned nearly 4 years. He returned home in 1254, and still maintained his personal intimacy with the king; but when, in 1270, Louis IX. summoned his barons to another crusade, Joinville declined to go. However, he bore witness to the king's virtues during the inquest preparatory to canonization, and he gladly assented when Queen Jeanne of Navarre requested him to write the deeds and good sayings of her husband's grandfather. To this request we owe his *Mémoires*, which are invaluable as a chronicle, and unrivalled in point of simplicity and grace. They were completed about 1309, and first printed by Marnet brothers (4to., Poitiers, 1546). The best editions are those of Du Cange (1668), Capperonnier (1761), and F. Michel (Didot, Paris, 1858). Capperonnier's was reprinted in 1840, with annotations, in the *Recueil des historiens de France*, vol. xx.

JOINVILLE, FRANÇOIS FERDINAND PHILIPPE LOUIS MARIE D'ORLÉANS, prince de, the 8d son of Louis Philippe, king of the French, born at the palace of Neuilly, near Paris, Oct. 14, 1818. Like his elder brothers, he completed his classical studies in the college of Henry IV., and then prepared himself for the naval school at Brest, into which he was admitted after passing the usual examination. He submitted to the regular training of the naval profession, went through all the routine of the service, and rapidly acquired considerable proficiency. His birth secured him of course rapid promotion, but there were few if any more meritorious officers in the French navy. He managed to be constantly in active service, evincing in all circumstances the utmost desire to distinguish himself. An opportunity was offered him in 1838, when Admiral Baudin was sent against Mexico. The prince, who had reached the rank of post-captain, was in command of the frigate *Oréole*, and was remarkable for the boldness and precision of his manoeuvres during the bombardment of the castle of San Juan d'Ulloa. A few days later, at the head of a detachment of sailors, he landed near Vera Cruz, broke in the gate of the city, passed through the streets amid brisk discharges of musketry, and with his own hand took Gen. Arista prisoner. His brilliant conduct was rewarded by the cross of the legion of honor, and his promotion to the rank of full captain. In 1840 he was sent to St. Helena, with two frigates, the *Belle Poule* and *Favorite*, to receive the remains of Napoleon I., which were transported to France. After a visit to the United States, and a cruise along the coast of Africa, he repaired to Rio Janeiro, which he had al-

ready visited, and there, May 1, 1843, married the princess Francesca of Braganza, the sister of Don Pedro II. In the same year he was appointed rear admiral, and became a member of the admiralty board; he participated in the deliberations of the committee for the organization of a steam navy, insisted upon the necessity of taking active measures toward this end, published in the *Revue des deux mondes* an able paper, *Note sur les forces navales de la France*, which attracted public attention to the subject, and saw his exertions crowned with partial success. In 1844 he was placed in command of the French fleet cruising along the coast of Morocco, and while Marshal Bugeaud was invading that empire by land, he bombarded Tangier, Aug. 6, and Mogadore, Aug. 15, taking possession of the island and harbor, and obliged the Moors to come to terms. The prince, who entertained liberal opinions, had more than once warned his father of the dangers attending his retrograde policy; but his voice had been powerless. On the breaking out of the revolution of 1848, he was in Algeria; he resigned his command to republican officers, sailed for England, and joined his exiled family at Claremont. When the constituent assembly discussed the decree of banishment against the Orleans family, he sent in a protest couched in most dignified terms. Since that time he has lived in retirement, keeping carefully aloof from all political intrigues, devoting his leisure hours to the education of his children and the colonization of his vast possessions in Brazil. The domain in France which he inherited from his aunt Adelaide was confiscated by Louis Napoleon in 1852. He has published in pamphlet form an *Étude sur l'escadre de la Méditerranée* (1852), and *La guerre de Chine en 1857*, in the *Revue des deux mondes*.

JOKJOKARTA, DJOCJOCARTA, OJOJOOKARTA, or YUGYAKARTA, a maritime province or residency in the S. part of Java, formerly one of the most important native states on the island, but now subject to the Dutch; pop. 380,000. It contains the volcano of Nerapi, 8,150 feet high, abounds in teak, is very fertile, and produces rice, coffee, and tobacco, but has no good harbors.—JOKJOKARTA, the capital of the above residency and seat of a native sultan and a Dutch resident; pop. 90,000. The most interesting features of the town are said to be the native monarch's water palace, with its walls, towers, and subterraneous approaches, and the fort occupied by Europeans. The sultan is attended by a body guard of young females, armed with lance, sword, and pistol, and serving both as infantry and cavalry. From them are often chosen inmates for the royal harem.

JOLIBA. See NIGER.

JOLIET, a city of Illinois, capital of Will co., situated on both sides of the Des Plaines river, 40 m. S. W. from Chicago; pop. in 1850, 2,659; in 1855, 6,000; in 1858, about 8,000. The Illinois and Michigan canal passes through the city, and it is the point of junction of the Chicago and Rock Island with the Chicago, Alton,

and St. Louis, the northern Indiana and Joliet, and the Joliet and Mendota railroads. It is surrounded by a rich agricultural country, and is the principal shipping point for the produce of this region which is exported by canal. In 1858 it contained 6 churches, 2 handsome school houses, a bank, 8 hotels, 2 flour mills, a saw mill, and several large timber yards. It is well built and lighted with gas. The city hall is a large and imposing edifice. The new state prison near Joliet is a massive stone structure, occupying an area of 15 acres. It was expected to be completed in the spring of 1860, and was already so far finished in May, 1858, that a number of prisoners were removed to it from the old penitentiary at Alton. There are inexhaustible quarries of fine blue and white building stone near the city.

JOLLIET, or JOLIER, LOUIS, one of the discoverers of the Mississippi river, born in Quebec, probably in the first half of the 17th century, died about 1780. He was educated at the Jesuit college of Quebec, and subsequently engaged in the fur trade on the western frontier, thereby becoming familiar with the missionaries, and with the habits and languages of various Indian tribes. Such was his reputation for prudence and experience that he was selected by the governor Frontenac and the intendant Talon to ascertain the direction and mouth of the Mississippi, a few of whose affluents had already been visited by missionaries and traders. Starting with his companion, the illustrious Father Marquette, and 5 other Frenchmen, from Green Bay in June, 1673, he ascended the Fox river, and descended the Wisconsin to its confluence with the Mississippi, down which the party sailed as far as the country of the Chickasaws, below the entrance of the Arkansas. Having ascertained with tolerable accuracy the general course of the stream, they returned to Green Bay, by the way of the Illinois river, Chicago, and Lake Michigan, whence Jolliet started alone for Quebec. The whole route travelled by them is estimated at 2,500 miles. He lost his journal and other papers in the rapids above Montreal, but wrote out from recollection a few pages of manuscript, which agree with the narrative of Marquette. In the same manner he prepared a map of the region explored. The French government inadequately rewarded him for his services with the island of Anticosti at the mouth of the St. Lawrence, where he built a house and fort for his family, intending to embark in trade. He appears, however, to have been subsequently employed in the west. In 1691 his island was captured by a British fleet and his property destroyed. Of his subsequent history very little is known. Joliet, the capital of Will co., Ill., is named after him.

JOMARD, EDMOND FRANÇOIS, a French geographer and archæologist, born in Versailles, Nov. 20, 1777. After completing his studies at the polytechnic school, he was appointed a member of the scientific commission which accompanied Bonaparte to Egypt in 1798, and

distinguished himself there by his zeal and successful researches. On his return to France, he was sent on a topographical mission to the Upper Palatinate, but was soon recalled to Paris in order to take part in the preparation of the *Description de l'Égypte*. Appointed secretary of the commission, and especially charged in 1807 to superintend the engraving and printing of that publication, he devoted 18 years to its completion. In order to procure some additional materials for it, he repaired to England in 1814, where, with the aid of Sir Joseph Banks, he was enabled to execute his design. During this journey he was impressed with the excellence of the Lancastrian schools, and on his return introduced the system into France. Meanwhile he was a zealous promoter of the cause of geographical science, inducing the government to send travellers to various parts of the world, giving accounts of their discoveries in his interesting papers, and participating in 1821 in the establishment of the geographical society. In 1828, on the organization of the new department of geography and travels in the royal (now imperial) library, he received the appointment of *conservateur administrateur*. He was made an officer of the legion of honor in 1838. Being held in great esteem by Mehemet Ali, he persuaded the pasha to send a number of young Egyptians to study in Paris. These young men formed what was called the *institut des Égyptiens*, placed under the direction of Jomard. As a reward for his services, the successor of Mehemet Ali appointed him his scientific correspondent, and granted him the honorary title of bey. His numerous publications are all devoted to geography, archæology, or public education. Beside his contributions to the great work of the Egyptian commission, which he has printed separately, under the title of *Recueil d'observations et de mémoires sur l'Égypte ancienne et moderne* (4 vols. 8vo., Paris, 1830), his most important publications are: *Voyage à l'oasis de Syouah* (1819), from the notes of the travellers Caillaud and Drovetti; *Remarques sur les rapports de l'Éthiopie et de l'Égypte, &c.* (1822-'8); and *Aperçus et coups d'œil sur les nouvelles découvertes dans l'Afrique centrale* (1824-'7). Nearly all of these are accompanied with valuable maps and diagrams.

JOMELLI, NICOLÒ, an Italian composer, born in Aversa, near Naples, in 1714, died in Naples, Aug. 28, 1774. He was a pupil of Leonardo Leo. His *Errori amoroso* and *Odoardo*, produced in Naples before he was 24 years of age, established his reputation, and he was invited to Rome, where he composed two new operas. Thence he went to Bologna, where he studied under Padre Martini. After a successful career in the chief cities of Italy, he returned in 1749 to Rome, where his *Artaserse* was coldly received, it being supposed that he was aspiring to the situation of chapelmaster of St. Peter's, for which neither his years nor his education qualified him. He was induced by this discomfiture to apply himself assiduously to the study

of the more profound branches of his art, especially ecclesiastical composition. At Vienna the next year, he produced his *Achille in Sciro* with complete success. Here too he made a congenial friend in the poet Metastasio, whose *Didone* he set to music, and on whose works he thenceforth almost exclusively employed himself. Returning to Rome in 1751, he received the coveted appointment of chapelmaster, which however he resigned in 1753 to accept an invitation from the duke of Württemberg to settle as musical director in Stuttgart. After many years' absence he returned to Naples in 1768; but his style no longer pleased the Neapolitans, and upon the failure of his *Demofonte* and *Iphigenia in Aulide* he sickened and died, having first composed his *Miserere*, the last and greatest of his works.

JOMINI, HENRI, baron, a French military historian, born in Payerne, canton of Vaud, Switzerland, March 6, 1779. He served first in the troops of his native country, and in 1804 was admitted to the French army with the rank of major, and was soon promoted to a colonelcy. Being attached to Marshal Ney in the capacity first of aide-de-camp, then of chief staff officer, he accompanied him to Germany in 1805-'7, and to Spain in 1808. Meanwhile he employed his pen in several political and military essays; as early as 1805 he had presented to Napoleon the first edition of one of his chief works, *Traité des grandes opérations militaires, ou histoire critique et militaire des guerres de Frédéric II. comparées à celles de la révolution* (5 vols. 8vo., with an atlas, Paris, 1805). Some misunderstanding between him and his commander caused him to be dismissed from his post, and he then offered his services to Alexander of Russia; but Napoleon would not allow him to throw off his allegiance. Clarke, the minister of war, offered him the alternatives of imprisonment or the rank of brigadier-general, and he reluctantly accepted the latter. In 1812 he was appointed governor of Wilna and then of Smolensk, and was of great service to the French army during the latter part of the disastrous retreat from Moscow. He subsequently resumed his duties as chief staff officer of Marshal Ney, and participated in the victory of Bautzen. Ney asked for him the rank of general of division; but not only was this recommendation overlooked by Berthier, who was unfriendly to him, but his name was erased from the promotion list and he was put under arrest on account of some trifling irregularities in his routine duties. This treatment he deeply resented; and after the armistice of Pläswitz, he left the French army and repaired to the head-quarters of Alexander, who appointed him his aide-de-camp. Sentence of death was passed against him as a deserter by a French court martial, and it was rumored that he had betrayed the military plans of the French to their enemies; but such an accusation was wholly unfounded, as was afterward ascertained by Napoleon's own declaration. Jomini even declined taking an active part in

the operations of the allied armies against France. In 1815 he accompanied the czar to Paris, and received the cross of the order of St. Louis from Louis XVIII. He tried, but in vain, to save the life of Marshal Ney. After sojourning in France to superintend the publication of his great work, *Histoire critique et militaire des campagnes de la révolution de 1792 à 1801*, written in conjunction with Col. Koch (15 vols. 8vo., Paris, 1819-'24), he returned to Russia in 1822, and was intrusted with the completion of the military education of the grand duke Nicholas, who, on his accession to the throne, retained him as his aide-de-camp. He served in 1828 during the Russian war against Turkey, and organized in 1830 the Russian military academy. He then retired to Brussels, but hastened to St. Petersburg on the breaking out of the Crimean war. Since 1855 he has again resided in Brussels. Beside the above mentioned works, which are the basis of his reputation as a military writer, his chief publications are: *Principes de la stratégie* (3 vols. 8vo., Paris, 1818); *Vie politique et militaire de Napoléon, racontée par lui-même au tribunal de César, d'Alexandre et de Frédéric* (4 vols. 8vo., Paris, 1827); *Tableau analytique des principales combinaisons de la guerre et de leurs rapports avec la politique des états* (4th ed., St. Petersburg, 1836); *Précis de l'art de la guerre, ou nouveau tableau analytique des principales combinaisons de la stratégie, de la grande tactique et de la politique militaire* (5th ed., Paris, 1838); *Précis politique et militaire de la campagne de 1815* (Paris, 1839); *Appendice au précis de l'histoire de la guerre* (Paris, 1849).

JOMSBORG, a piratical city, once existing on the S. coast of the Baltic, but of which no traces now remain. Its exact situation is not known. It became probably identical with Julin, a seaport founded by the Wends, and situated in that part of the delta of the Oder which is now the island of Wollin, described by Adam of Bremen as the largest and most flourishing commercial city in Europe in the 11th century. M. Mallet calls this city both Julin and Jomsborg. The Scandinavian pirate Palnatoki, about the middle of the 10th century, erected a stronghold near Julin, and ultimately obtained possession of the whole island, thus giving the name Jomsborg to what had been Julin. Contempt of death, and fearlessness in general, were the requirements for admission into the community of Jomsborg; and every aspirant underwent some trials in this respect. Jomsborg was destroyed about 1175, by Waldemar the Great of Denmark, in alliance with the princes of Germany and the emperor Barbarossa. The remnant of the pirates escaped to Pomerania, and established themselves upon the Elbe, until they received their final blow from the Danes during the reign of Canute VI. a few years after the destruction of their great depot.

JONAH, the 5th of the minor Hebrew prophets, son of Amittai, born in Gath-hepher, in the tribe of Zebulon, prophesied in the kingdom of

Israel under Jeroboam II. In the book of Jonah it is related that he received the divine command to go to Nineveh and denounce the wickedness of that city. Refusing to undertake the mission, he embarked at Joppa for Tarshish that he might flee from the presence of the Lord. Overtaken by a tempest, the mariners threw him overboard as the cause of their disaster. He was miraculously preserved, being swallowed by a great fish, within which he lived 3 days and 3 nights, when the monster threw him forth upon dry land. Again sent to Nineveh, he prophesied the destruction of that city within 40 days. The Ninevites repented, and God forbore to execute the sentence which he had pronounced. Jonah complained of this result, retired from the city, and while dwelling in a booth was symbolically reproved by God. The literal interpretation of the book of Jonah was maintained by the early ecclesiastical authors. Various allegorical and mythical interpretations have been advanced by some modern critics, as Semler, Michaelis, Herder, Eichhorn, Meyer, and De Wette.—See Jäger, *Ueber den Zweck des Buches Jonas* (1840), and Krahmer, *Das Buch Jonas historisch-kritisch untersucht* (1846).

JONAS, JUSTA, a German theologian, born in Nordhausen in 1493, died in Eisfeld in 1555. He studied law and afterward theology at Erfurt, and was appointed in 1521 professor at Wittenberg, where he embraced with zeal the doctrines of the reformation, becoming intimate with Luther and accompanying him to the diet at Worms. He was present at the conference in Marburg and at the famous imperial diet of Augsburg. In 1541 he was appointed preacher at Halle, from which place when banished he accompanied Luther on his last journey to Eisleben. At the time of his death he was pastor and superintendent at Eisfeld. He assisted Luther in translating the Bible. The work by which he is best known is the *Discussio pro Conjugio Sacerdotali* (1528).

JONES, the name of 4 counties in the United States. I. A S. E. co. of N. C., drained by Trent river; area, 880 sq. m.; pop. in 1850, 5,038, of whom 2,757 were slaves. It has a level and marshy surface, with pine and cypress forests, and a sandy soil. The productions in 1850 were 235,362 bushels of Indian corn, 10,385 of oats, and 98 bales of cotton. There were 15 grist mills, 1 saw mill, 12 tar and turpentine manufactories, 18 churches, and 240 pupils attending public schools. Capital, Trenton. II. A central co. of Ga., bounded W. by Ocmulgee river; area, 860 sq. m.; pop. in 1852, 10,056, of whom 8,126 were slaves. The surface is hilly, and the soil generally good, though much worn. Iron, granite, and quartz are found. The productions in 1850 were 402,860 bushels of Indian corn, 54,208 of oats, 84,677 of sweet potatoes, and 9,006 bales of cotton. There were 6 grist mills, 2 saw mills, 16 churches, and 850 pupils attending public schools. Value of land in 1856, \$1,515,306. The central Georgia railroad passes along the S. boundary of the

county. Capital, Clinton. III. A S. E. co. of Miss., drained by Leaf and Tallahoma rivers; area, 672 sq. m.; pop. in 1850, 2,164, of whom 274 were slaves. It has a rolling or slightly hilly surface, with a sandy soil of various qualities. The productions in 1850 were 60,988 bushels of Indian corn, 32,615 of sweet potatoes, 250 bales of cotton, and 74,555 lbs. of rice. There were 2 grist mills, 4 saw mills, 12 churches, and 76 pupils attending public schools. Capital, Ellisville. IV. An E. co. of Iowa, drained by Wapsipinicon and Makoqueta rivers; area, 576 sq. m.; pop. in 1859, 18,475. It has a diversified surface, with alternations of prairie and forest, and a fertile soil resting chiefly on a bed of limestone. The productions in 1859 were 124,405 bushels of wheat, 527,885 of Indian corn, 58,445 of oats, 37,411 of potatoes, 10,678 tons of hay, and 275,600 lbs. of butter. The Dubuque and Pacific railroad passes through the county. Capital, Anamosa.

JONES, ANSON, the last president of the republic of Texas, born in the part of Great Barrington called Seekonk, Berkshire co., Mass., Jan. 20, 1798, died by his own hand in Houston, Texas, Jan. 7, 1858. At the request of his father, a farmer, who had afforded him a fair education, he commenced the study of medicine in Litchfield, Conn., in 1817, and in 1820 was licensed to practise. After a residence in South America, Philadelphia, and New Orleans, without having obtained much success in his profession, he established himself in 1833 in Brazoria, Texas, and immediately entered upon a lucrative practice. Upon the outbreak of the troubles between Texas and Mexico, he became one of the earliest advocates of the severance of the two countries; and in Dec. 1835, as chairman of a large meeting held in Brazoria, drew up resolutions in favor of a "declaration of independence from Mexico," and of a convention of the people of Texas to form a constitution. In the succeeding war of independence he served as a private soldier and as surgeon in the Texan army. In 1837-'8 he was a representative in the Texan congress from Brazoria co., in which capacity he aided in destroying the celebrated monopoly, the "Texan Railroad, Navigation, and Banking Company." In 1838 he was sent as minister to Washington, where he remained about a year, and where he endeavored, though unsuccessfully, to secure the annexation of Texas to the United States. On his return to Texas he took his seat in congress as senator from Brazoria, and in 1841 he was appointed by President Houston his secretary of state, which office he filled 8 years. During this period, and subsequently also, he had the entire direction of the diplomacy of the country, and to his efforts perhaps more than to those of any other individual is due the high position which Texas acquired in her relations with foreign powers. In Sept. 1844, he was elected president of Texas for 8 years from the ensuing December, and held that office until the annexation of Texas to the United States. His ad-

ministration covered a very busy and critical period in the history of Texas, and his labors and responsibilities were greater than had fallen to the lot of any of his predecessors in the same space of time. He succeeded in maintaining a footing of equality in negotiations with England, France, and the United States; and by the intervention of the two former powers the government of Mexico was induced to acknowledge the independence of Texas. Commercial activity was incited, emigration from Europe, and particularly from Germany, was setting in, and terms of great advantage could undoubtedly have been secured to the country by treaties with foreign powers, under a stipulation that annexation to the United States should not be encouraged. Under these circumstances it is believed that President Jones preferred independence to annexation. But when it became evident that the popular will was in favor of the latter measure, he spared no efforts to accomplish it, at the same time that he avoided giving umbrage to the European powers. His popularity, however, was affected by the course he pursued, and he was never afterward elected to any public office of importance, a circumstance which preyed deeply upon him, and probably led to the mental alienation under the influence of which he put an end to his life. He possessed great abilities for public business, especially as a diplomatist, and in private life was remarkable for suavity of manner and strong common sense. The latter years of his life were passed in agricultural pursuits. In 1859 his journal, preceded by a brief autobiography, was printed for private circulation.

JONES, INIGO, an English architect, born in London in 1572, died July 21, 1652. He was of humble origin, and in early life is said to have been apprenticed to a joiner. But manifesting a strong inclination for drawing, he attracted the notice of the earl of Pembroke, who afforded him the means of procuring an art education abroad. During several years he made careful studies of the chief architectural monuments of France, Germany, and Italy; and in the latter country he first obtained a correct idea of the various ancient classic, and of the modern Italian styles, the first of which were altogether unknown in England, while the latter had never been introduced save in fragmentary details. In Venice he became acquainted with the masterpieces of Palladio, whose style he subsequently transplanted into England. At the invitation of Christian IV. of Denmark, he visited Copenhagen in 1604, and during a residence there of about a year furnished, it is said, the designs for the royal residences of Rosenborg and Frederiksborg, which are little creditable to his architectural skill or taste. In 1605 he returned to England, and at the recommendation of Christian, whose sister James I. had married, was kindly received by the latter monarch, who employed him to prepare the scenery, decorations, and machinery for the masques written by Ben Jonson, which were among the

chief amusements of the court. So wholly was his time devoted to this occupation, that for several years he was unable to accomplish any important architectural work. He became a person of considerable consequence, however, at court, and by his overbearing manners incurred the enmity of his dramatic associate, Jonson, who satirized him under the name of Lantern Leather-head in his "Bartholomew Fair." In 1612, upon the death of Prince Henry, to whom he had been appointed architect, he revisited Italy, and succeeded in materially improving his style. Upon his return to England he was made surveyor-general of the royal buildings, and during the next 25 years was occupied with many important public works, holding all the time the position of the first architect of England, if not of his age. His designs for the palace at Whitehall, of which only the banquetting house was built, are considered his *chef d'œuvre*; beside which he designed the river front of Somerset house, a splendid Corinthian portico rather incongruously added to old St. Paul's, the arcade and church of St. Paul, Covent Garden, York stairs, surgeons' hall, Shaftesbury house, Ashburnham house, and many private residences in various parts of England, all of which were much admired in their day, although modern taste finds in such of them as remain little to admire or praise. Jones also aspired to the character of an antiquary, and at the request of James I. made a careful examination of the druidical remains at Stonehenge, which he undertook to show belonged to a temple of the Roman or Tuscan order dedicated to Coelus. The errors of his restoration, as disclosed in his "Essay on Stonehenge," published after his death by his son-in-law John Webb (fol., 1655), are sufficiently apparent, to say nothing of the absurdity of his general conclusions. During the civil wars he adhered to the royal cause, and suffered so much from fines and other persecutions that he died broken-hearted and in poverty. A good idea of his merits as an architect may be derived from the volumes of his designs published by William Kent in 1727 and 1770, and by Isaac Ware in 1743. His reputation is hardly sustained by these, but must be accounted for in a great measure by the novelty of the new classic style he introduced into England, and by the fact that he occupied the field during his whole life with scarcely a rival. He in no respect merits the title of the "English Palladio" or the "English Vitruvius," frequently bestowed upon him. He was an accomplished classical scholar and mathematician, and occasionally wrote verses. His publications consist of a masque and several miscellaneous essays, and he also left some notes on Palladio's architecture, which were inserted by Leoni in an edition of Palladio in 1714.—See "Life of Inigo Jones," by Peter Cunningham (London, 1848).

JONES, JACOB, a commodore in the U. S. navy, born near Smyrna, Kent co., Del., in 1770, died in Philadelphia in Aug. 1850. He was educated for the medical profession, and

commenced practice in his native county, but soon relinquished it for the clerkship of the supreme court of Delaware. In April, 1799, he received a midshipman's warrant in the navy, and served for some time in the frigate *United States* under Commodore John Barry. He was promoted to the rank of lieutenant in Feb. 1801, and at the opening of the war with Tripoli was attached to the frigate *Philadelphia*, in which he was captured off Tripoli in 1803 (see *BAIRBRIDGE, WILLIAM*), and remained a prisoner 20 months. He was afterward employed for some years on the S. coast of the United States, a part of the time in command of the brig *Argus*. In April, 1810, he was commissioned as master commandant, and in 1811 was appointed to the command of the *Wasp*, a sloop of war of 18 guns. He was on his passage home from France in 1812 when war was declared by the United States against England. On his arrival the *Wasp* was ordered to sea again immediately, and sailed from the Delaware on Oct. 18 upon a cruise. On the night of the 17th, in lat. 37° N., long. 60° W., she fell in with a number of vessels, which on the morning of the 18th were discovered to be a convoy of English merchantmen protected by a sloop of war, which the *Wasp* engaged at 11h. 30m. A. M. The action commenced at a distance of 50 or 60 yards, which was gradually lessened for a space of 48 minutes, when the *Wasp* boarded, and carried her antagonist. The fire on both sides was extremely well maintained, but, as the result proved, that of the *Wasp* was the most rapid and accurate. The captured vessel proved to be H. B. M. sloop *Frolic*, Capt. Whinyates, mounting 16 32 lb. carronades, 4 long guns, and 2 12 lb. carronades upon her topgallant forecastle. The armament of the *Wasp* was 16 32 lb. carronades and 2 long 12 lb. guns. The *Wasp* had 138 men upon her muster roll; the *Frolic* probably a few less, though this is not certainly known. The two vessels were very nearly equal, and no action of the war of 1812 was more creditable to the American navy than this. The *Wasp* suffered considerably in her rigging and spars, though but little in her hull; but the *Frolic* was a mere wreck when she surrendered. Her loss was never accurately known, but was probably not less than 80 killed and wounded. Among the wounded were her captain, 1st lieutenant, and master, the two last mortally. Capt. Whinyates stated in his official report, that not 20 of his crew escaped unhurt. Possession was immediately taken of the *Frolic*, and a prize crew placed on board her under the command of Lieut. James Biddle, 1st lieutenant of the *Wasp*, who had hardly commenced clearing the wreck when a large sail was seen standing toward the two vessels. It proved to be H. B. M. ship *Poictiers* of 74 guns, which captured both vessels and carried them to Bermuda. The Americans were soon put on parole, and returned to the United States, Capt. Jones being everywhere received with distinguished honors. Congress voted a gold medal to him, and silver ones to

each commissioned officer of the *Wasp*. In March, 1818, he was promoted to the rank of post-captain, and appointed to the command of the frigate *Macedonian* in the squadron of Commodore Stephen Decatur. After the peace with England, Commodore Jones commanded squadrons in the Mediterranean and Pacific, and served for some years as a commissioner of the navy board, and governor of the naval asylum at Philadelphia.

JONES, JAMES CHAMBERLAIN, an American statesman, born in Davidson co., Tenn., April 20, 1809, died in Memphis, Oct. 29, 1859. During his infancy his father died, and Col. Ward, a prominent politician, became his guardian, and brought him up in his own family. Mr. Jones's advantages of early education were limited; he attended a country school at intervals for 3 years. Being fond of books, and having access to his guardian's library, he acquired the elements of a good English education, and a knowledge of history. A large portion of his time before attaining his majority was devoted to labor on Col. Ward's plantation. At the age of 21, having married and received his small patrimony, he settled on a farm in Wilson co. In 1837 and 1839 he represented that county in the legislature. In 1840 he was a candidate for presidential elector on the Harrison and Tyler ticket. In 1841 he was nominated as the whig candidate for governor of Tennessee against the late James K. Polk. After an animated contest, in which the entire state was canvassed by the two candidates, Mr. Jones was elected by a small majority. He was reelected in 1843, Mr. Polk being again his competitor. These two canvasses attracted much attention throughout the country, because of the powers of oratory displayed by the opposing candidates. In 1845 Gov. Jones declined a reelection, and at the expiration of his term in November of that year he retired to private life. In 1847 he became a candidate for congress in the Murfreesborough district, but withdrew from the canvass before the election. In 1848 he was a member of the national whig convention, where he zealously advocated the nomination of Henry Clay; but Gen. Taylor having received the nomination, Mr. Jones supported him cordially, and delivered several popular speeches in his behalf in different states. In 1850 he removed to Memphis, and in 1851 was elected to the U. S. senate. In 1854 he was a conspicuous supporter of the Kansas-Nebraska bill, and thenceforward became identified with the democratic party. At the expiration of his senatorial term, March 4, 1857, he again retired to private life.

JONES, JONN, a Welsh clergyman, born in Caermarthenshire, died in London, Jan. 10, 1827. He completed his education at the Unitarian college of Hackney, and in 1792 was appointed classical and mathematical tutor in the Welsh academy at Swansea. He continued in this situation for 3 years, and then removed to Plymouth Dock, where he became minister of a Unitarian church. This charge he exchanged

in 1797 for that of the Unitarian congregation at Halifax, in Yorkshire. About 1800 he removed to London, and resided there during the remainder of his life, occupied chiefly as a classical teacher. A short time before his death the degree of LL.D. was conferred on him by the university of Aberdeen. He was the author of several works, the most important of which are: "Illustrations of the Four Gospels" (London, 1808); a "Greek and English Lexicon" (1828); and *Etymologia Græca* (1826), a new and enlarged edition of a Greek grammar published by him in 1804. Dr. Jones was among the first who introduced into England the practice of teaching Greek through the medium of English rather than of Latin. His "Greek and English Lexicon" was long in use.

JONES, JOHN PAUL, a commodore in the American navy during the war of the revolution, born of humble parentage at Arbigland, Scotland, near the mouth of the river Nith, July 6, 1747, died in Paris, July 18, 1792. His name was John Paul, that of Jones having been assumed in after life for some unknown reason. At the age of 12 he was apprenticed to a merchant of Whitehaven, who was engaged in the American trade. His first voyage was to Virginia, where his elder brother was established as a planter. He was afterward engaged for a short time in the slave trade, which he left in disgust, and made a number of voyages to the West Indies, realizing, it was said, a fortune by commercial speculations. At the commencement of the American revolutionary struggle he was in Virginia, having assumed the name of Jones. An offer of his services, which he made to the colonies, was accepted, and he was commissioned as a lieutenant in the navy, Dec. 22, 1775. His first service was in the *Alfred*, Capt. Dudley Saltonstall, a ship of 80 guns and 800 men, purchased from the merchant service. This was the flag ship of a squadron of 8 vessels, fitted out on the Delaware, and commanded by Commodore Ezekiel Hopkins. Jones was 1st lieutenant of her, and, it is said, hoisted on this occasion the first American flag ever displayed. The device it bore is not positively known, though it is believed to have been a pine tree with a rattlesnake coiled at its root. From the *Alfred* he was soon transferred to the command of the sloop *Providence*, of 12 guns and 70 men, in which vessel he made 16 prizes during a cruise of 6 weeks between the Bermudas and the gut of Canso. On Aug. 8, 1776, Jones received a captain's commission, and on Nov. 2 he sailed from Newport, R. I., in command of the *Alfred* and *Providence*, upon an expedition which he had suggested, the object of which was the capture of the coal fleet and the breaking up of the fishery at Cape Breton. This expedition was entirely successful. On June 14, 1777, Jones was appointed to the command of the *Ranger*, a new ship of 18 guns built for the navy at Portsmouth, N. H. On Nov. 1 he sailed for France, and arrived at Nantes, Dec. 2, expecting to be appointed by the American commissioners,

Messrs. Franklin, Deane, and Lee, to the command of the *Indien*, a large frigate then building at Amsterdam for the Americans. Being disappointed in this expectation, owing to the opposition made by the British minister at the Hague to the equipment of the frigate, and her subsequent sale to France, Jones made a cruise in the *Ranger* upon the coast of Scotland, where he harassed the coasting trade very much, and made a most daring and successful descent upon Whitehaven. He also attempted to capture the earl of Selkirk, who resided upon his estate near Kirkcudbright, on the river Dee. Jones thought that the possession of the person of this nobleman might bring about a system of exchanges of prisoners, to which England had hitherto shown a reluctance. This design failed, owing to the absence of the earl from home, but the party which landed to capture him took from his house a quantity of silver plate. When this plate was afterward sold, Jones became the purchaser, and restored it to Lady Selkirk. During this cruise the *Ranger* captured the *Drake*, a sloop of war superior to her in force. On May 8, 1778, the *Ranger* arrived at Brest, with the *Drake*, her prize, and 200 prisoners, being nearly double the number of her own crew. Jones was warmly greeted by the American commissioners, and received distinguished attentions from the French court, which was on the point of joining the American cause. From this time until Feb. 1779, Jones used every effort to obtain another and better command. The *Ranger* was despatched by the commissioners to America, Jones being retained by them in France. After many months of disappointment, and much fruitless correspondence, he, according to his own account, was struck with the saying of Poor Richard in an old number of Dr. Franklin's "Pennsylvania Almanac": "If you would have your business done, go; if not, send." He immediately set out for Paris, and made such strong personal appeals to the minister, M. de Sartine, that on Feb. 4 he was appointed to the command of the ship *Duras*, an old Indiaman converted into a ship of war, and then lying at L'Orient. In compliment to Dr. Franklin, Jones upon application to the minister was permitted to change the name of this ship to that of the "Bon Homme Richard." After many vexatious delays, she was equipped for service, though in a very inefficient manner. On her main or gun deck she mounted 28 12-pounders, and on her quarter deck and fore-castle 14 9-pounders, making an armament of 42 guns in all. But Jones, determined to make the most of her, caused 12 ports to be cut in her gun room below, where 6 old 18-pounders were mounted. This expedient did not add to the efficiency of the ship, but, on the contrary, as will be seen, produced disastrous consequences. On Aug. 14, 1779, Jones sailed from L'Orient, having under his command a squadron of 5 vessels, one of which was the *Alliance*, Capt. Pierre Landais, a new and fast-sailing frigate, which had arrived some months before from America.

He had hardly put to sea before a mutinous temper was but too manifest among many of his officers and men, and in this respect the conduct of Capt. Landais was very conspicuous. This officer had served in the French navy, from which he had been dismissed on account of infirmity of temper. By the middle of September 26 vessels had been captured or destroyed by this squadron, and very great alarm created upon the E. coast of England. On Sept. 23 the *Bon Homme Richard* was off Flamborough Head, having in company the *Alliance*, Capt. Landais, and the *Pallas*, a ship mounting 32 light guns, commanded by Capt. Cottineau, a brave and good officer. Soon after noon the headmost ships of a fleet, known to be from the Baltic, were seen standing out from under Flamborough Head, and beating down toward the straits of Dover. This fleet was under convoy of the *Serapis*, 44, and *Countess of Scarborough*, 20. Signal for general chase was made by Jones, and the *Alliance*, being the fastest of the squadron, took the lead; but no sooner had she discovered the force of the English vessels of war than she stood off from them. At about 7½ o'clock the *Richard* came up with the *Serapis*, and closed with her, upon her weather quarter, to about half pistol shot. The weather was serene and beautiful, the water perfectly smooth, and the wind light at S. W., the ships heading to the northward. It was full moon, and Flamborough Head, less than a league distant, and the piers of Scarborough were covered with spectators to witness the combat. The *Serapis* now hailed the *Richard*, and was answered. A few unimportant questions passed, when broadsides were exchanged, and two of the old 18-pounders mounted in the *Richard*'s gun room burst, blowing up the deck above and killing or wounding a large portion of the men stationed at them. This part of the battery was then abandoned, and the ports were closed. A close and heavy cannonade was now maintained by both ships for about an hour, when they fouled each other, and there was for a few moments a cessation of the firing. Capt. Pearson of the *Serapis* again hailed the *Richard*, asking if she had struck her colors. "I have not yet begun to fight," was the reply of Jones, and the action was immediately renewed. After considerable manœuvring the ships again came foul, when Jones with his own hands assisted in lashing the jib stay of the *Serapis* to the mizzen mast of the *Richard*. As soon as Capt. Pearson perceived this, he let go an anchor in the hope that his antagonist would drift clear of him, but the ships were now well secured together head and stern. During this time the combat was raging furiously. The ships being in actual contact, fore and aft, the guns of either were discharged into the side or through the ports of her antagonist. The effect of such a fire was terrible to both. Occasionally fighting with pikes and pistols took place through ports, and the American seamen, laying out upon the yards of their ship, dropped hand grenades on the decks of the *Serapis*. At

this juncture a most unexpected event took place. The *Countess of Scarborough* had surrendered to the *Pallas*, after a well contested action of an hour and a half, and Captain Cottineau entreated Capt. Landais, who had kept aloof with the *Alliance*, to take possession of his prize, and allow him to go to the assistance of Jones, which he declined; and the *Alliance* after making two long stretches to windward kept away, and coming upon the larboard quarter of the *Richard* opened a fire upon her. The evidence of this seems ample. At 9¼ an explosion took place on board the *Serapis*, caused by a hand grenade from the *Richard*, which killed and wounded 20 men. About 10 o'clock, owing to a cry which had been raised that the ship was sinking, the carpenter of the *Richard* released over 100 prisoners, a part of whom succeeded in getting on board the *Serapis*; and the gunner, alarmed at the quantity of water in the ship (for she had received many shots between wind and water) ran aft on the poop, crying for quarter, but was sternly silenced by Jones. The situation of the *Richard* now seemed hopeless. She was almost in a sinking condition, many of her guns were disabled, a large number of her prisoners were at large, the *Alliance* was deliberately firing into her, and some of the petty officers had set up the cry of fire. But it does not seem that the thought of surrendering had even entered the mind of Jones. The prisoners were compelled to work the pumps, and the action was continued with 8 light quarter deck guns, under his personal superintendence. Soon after 10 o'clock the *Serapis* struck, and the 1st lieutenant of the *Richard*, Mr. Dale, afterward Commodore Richard Dale, was ordered on board to take possession of her. The lashings were now cut, and as the ships separated, the main mast of the *Serapis* fell, carrying with it the mizzen topmast. Her cable was then cut, and Lieut. Dale made such sail as he could after the *Richard*. In the morning the spectacle presented by the *Richard* was singular and dreadful. She was on fire in two places, and had 7 feet water in her hold. Her counters and quarters on the lower deck were driven in, the whole of her main battery was dismounted, and she was cut to pieces in a most extraordinary manner. The after part of the ship, in line with the guns of the *Serapis*, was so completely beaten in, that the upper deck was only sustained by a few frames, which had been missed by shot. It being deemed impossible to carry her into port, the wounded were removed, and she soon after sank. The *Serapis* suffered much less. She was a new ship, in excellent condition, and much superior in force to the *Richard*, mounting 50 guns, though rated at 44. On her lower deck were 20 18-pounders, on her upper deck 20 9-pounders, and on her quarter deck and forecastle 10 6-pounders. Her crew consisted of 820 souls. The *Richard*, on the other hand, as has been stated, was an old ship, much decayed, her effective armament consisting of but 43 guns of light caliber. A por-

tion of her crew was absent in prizes, leaving the number actually engaged but 227 souls, and these were Irish, Scotch, Portuguese, Norwegians, &c., with but very few Americans. No authentic report of the loss on either side has ever been given, but the engagement was, beyond all doubt, the most obstinate and sanguinary one which ever occurred between single ships. Jones carried his prizes into the Texel. On his arrival in France he was received with the most distinguished honors. A sword was presented to him by the king, who also requested permission of congress to decorate him with the military order of merit. In 1781 he sailed for the United States, arriving in Philadelphia in February, where he was exceedingly well received. Congress voted him a gold medal, and Gen. Washington addressed him a highly complimentary letter. He was afterward employed to superintend the construction of a line of battle ship, the *America*, at Portsmouth, N. H., which he was to have commanded; but the ship was presented by congress to France. He then went to Paris, as an agent for prize money, and while there was invited into the Russian service with the rank of rear admiral, but was disappointed at not receiving command of the fleet in the Black sea. He quarrelled with the admiral, the prince of Nassau, and owing to the intrigues of enemies fell into disfavor at court, and was finally permitted by the empress Catharine to retire from the service, with a pension which was never paid. He took up his residence in Paris, where he died in poverty and neglect.

JONES, NOBLE WIMBERLY, an American physician and revolutionary patriot, born in Georgia in 1725, died in Savannah, Ga., Jan. 9, 1805. He was the son of one of the first settlers in the state, held a military commission at an early age, and was a member of the assembly in 1761. He was one of the leading revolutionists in Georgia in 1774, was a delegate to congress in 1775, lost one of his sons at the capture of Savannah by the British in 1778, was himself made prisoner at the fall of Charleston in 1780, was exchanged in 1781, and was immediately chosen again a delegate to congress, and began to practise his profession in Philadelphia. He had an extensive medical practice in Charleston from 1782 to 1788, after which he lived in Savannah. He was president of the convention by which the constitution of the state was amended in 1795.

JONES, OWEN, an English architect and decorator, born in Wales about 1809. After serving an apprenticeship to Mr. Lewis Valliamy, he spent several years in travelling through southern Europe, Turkey, and Egypt. During a visit to Granada in 1834, in conjunction with M. Jules Goury, he made careful drawings of the palace of the Alhambra and of other Moorish remains, with a view of preparing an illustrated work on the subject. Goury died at the outset of the undertaking, which Mr. Jones thenceforth prosecuted alone, visiting the Al-

hambra again in 1837 to complete his drawings, and superintending with great care the printing of the illustrative designs in colors. In 1842 the work was published in an unusually costly style, under the title of "Plans, Elevations, Sections, and Details of the Alhambra," &c. (fol., London), accompanied by a translation of the Arabic inscriptions and a historical notice of the Moorish kings of Granada by Señor Pascual de Gayangos. In the same year appeared his "Designs for Mosaic and Tessellated Pavements" (4to., London). The Mohammedan, and more particularly the Moorish style of ornamentation, has been strongly advocated by him, and his labors have greatly developed the science of chromatics as applied to the internal and external decoration of buildings. In 1851 he was appointed a superintendent of the works in connection with the crystal palace exhibition in Hyde park, London, and his plans for decorating the structure were carried out in a modified form. In 1852 he became director of decorations to the crystal palace company, and, upon the erection of their building at Sydenham, superintended the construction and adornment of the Egyptian, Greek, Roman, and Alhambra courts, and the decorative painting of the general fabric. His polychromatic decoration of the Greek court having excited comment, he published "An Apology for the Coloring of the Greek Court," in which he took the ground that ancient sculpture was usually painted, and that the exterior of marble buildings was frequently so embellished. In illustration of his views he painted a portion of the casts of the Elgin marbles at Sydenham in parti-colors, the hair being gilt. His Alhambra court is the finest specimen of colored decoration yet produced in England. He has written a "Handbook to the Alhambra Court," explaining the principles of its ornamentation. His remaining publications are: "Views on the Nile from Cairo to the Second Cataract" (fol., 1843); "An Attempt to define the Principles which should regulate the Employment of Color in the Decorative Arts, a Lecture" (1852); and "The Grammar of Ornament" (fol., 1856), one of the most elegant works of the age, containing 100 plates illustrating various styles of ornament, printed in colors. He has also lectured frequently on his favorite subject, and has translated Seroux d'Agincourt's "History of Art by its Monuments," &c. (fol., 1847). He has frequently been employed in ornamental chromatic designs for the title pages of illustrated books.

JONES, THOMAS RYMER, an English writer on comparative anatomy and physiology, born about 1810. He became a member of the college of surgeons of England in 1838, but on account of an impediment in his hearing has never practised his profession. Devoting himself to the study of comparative anatomy, he published several contributions to that branch of science in the "Proceedings of the Zoological Society," and was soon after appointed professor of comparative anatomy in King's col-

lege, London. His first work, "A General Outline of the Animal Kingdom" (8vo., 1841), written to supply a want in English scientific literature, established his reputation as a comparative anatomist and physiologist, and is still regarded as one of the best works of its kind in any language. About this time he was appointed Fullerian professor of physiology in the royal institution, and subsequently he became examiner in comparative anatomy and physiology in the London university. In 1844 and 1852 were published the first two volumes of his Fullerian lectures, under the title of "Lectures on the Natural History of Animals," the work being still incomplete. His latest publication is "The Aquarian Naturalist" (London, 1858). He has also been a contributor to the "Cyclopædia of Anatomy and Physiology," and has an extended reputation in England as a lecturer on natural history.

JONES, WILLIAM, an English divine, born in Lowick, Northamptonshire, in 1726, died in Nayland in 1800. He was educated at the Charterhouse, and at University college, Oxford, and became successively vicar of Bethersden (1764), rector of Pluckley, perpetual curate of Nayland (1776), and rector of Paston and of Hollingbourn, the last 8 of which appointments he held at his death. He was eminent as a scholar and theologian, and proficient in music. He was an intimate friend of Bishop Horne, and associated with him in maintaining the theological and philosophical opinions of John Hutchinson. His principal works are: "The Catholic Doctrine of the Trinity Proved" (1756), by which and by several other treatises on the same subject he is best known; "Lectures on the Figurative Language of the Holy Scriptures" (1766; 6th ed., 1821; new ed., 1849), which have been highly esteemed, though distinguished for imaginative and allegorical interpretations; "The Scholar Armed against the Errors of the Time," a compilation (2 vols., 1792); and a "Life of Bishop Horne" (1795). He wrote many other religious works, and several treatises on music, composed anthems and other musical pieces which were much admired, and was the originator of the "British Critic." A collected edition of his works, with a biography by William Stevens, was published in 1801 (12 vols.; new ed., 6 vols., 1810). Two posthumous volumes of his sermons, edited by Henry Walker, appeared in 1830.

JONES, SIR WILLIAM, an English orientalist, born in London, Sept. 28, 1746, died in Calcutta, April 27, 1794. His father, an eminent mathematician, died when he was but 8 years old, and the care of his education devolved on his mother, who was noted for her erudition and virtues. She withdrew herself much from society, that she might live only for her son, and her constant aim was to excite his curiosity, to interest him in books, and to produce habits of study. When 7 years old he was sent to the grammar school at Harrow, where he remained 10 years, not only surpassing his associates in

classical studies, but making some progress in Hebrew and Arabic, and applying himself to French and Italian during his vacations. The head master affirmed that he was "a boy of so active a mind, that, if he were left naked and friendless on Salisbury plain, he would nevertheless find the road to fame and riches." In 1764 he was entered at University college, Oxford, his mother accompanying him thither, and prosecuted with the greatest diligence his studies in the oriental and modern European languages, preserving his health by athletic exercises, in which also he excelled. In 1765 he was invited to reside in the family of Earl Spencer, as tutor to Lord Althorp, then 7 years of age, which office he held for 5 years, during which he twice visited the continent, always prosecuting his studies. He was elected during this period to a fellowship at Oxford. Meantime his fame for oriental scholarship had begun to extend, and in 1768 Christian VII. of Denmark requested him to translate into French a Persian life of Nadir Shah. This was published (London, 1770) in connection with a dissertation, also in French, on oriental poetry, containing translations of several of the odes of Hafiz. In the following year appeared his Persian grammar (7th ed. 1809; last ed. 1828), which, as enlarged by subsequent editors, long remained the standard text book on the subject. In 1770 he became a student at the Temple, and began to contemplate "the stately edifice of the laws of England," but was immediately called upon to defend his university against the aspersions of the French orientalist Anquetil du Perron. His pamphlet (1771) was anonymous, in idiomatic and effective French, and was universally admitted to surpass the attack both in wit and learning. In the following year he published a small volume of poems, chiefly translations from the Asiatic languages, which was followed by the more important *Poeseos Asiaticæ Commentariorum Libri Sex* (1774; republished by Eichhorn, Leipsic, 1776), in which with equal skill and erudition he aimed to familiarize the European mind with oriental modes of thought and expression. Called to the bar in 1774, he left at Oxford all his oriental books and manuscripts, and applied himself exclusively and with a patriotic enthusiasm to legal studies. "Had I lived at Rome or Athens," he wrote, "I should have preferred the labors, studies, and dangers of their orators and illustrious citizens, connected as they were with banishment and even death, to the groves of the poets, or the gardens of the philosophers. Here I adopt the same resolution. The constitution of England is in no respect inferior to that of Rome or Athens." With such views, he was ambitious of a seat in parliament, and in 1780 stood for the university of Oxford; but his liberal politics, and his condemnation of the American war and of the slave trade, deprived him of all chance of success, and he withdrew from the contest. His political opinions were declared in several essays, as his "Inquiry into the Legal Mode of Suppressing Riots,"

"Plan of a National Defence," and "Principles of Government;" and he produced in 1781 a more elaborate work on the "Law of Bailments," which alone, according to Judge Story, would have given him "a name unrivalled in the common law for philosophical accuracy, elegant learning, and finished analysis." He resumed his oriental studies to produce a translation of the "Moallakat, or Seven Arabian Poems which were suspended in the Temple at Mecca" (1788). In 1788 he was married, knighted, and, through the influence of Lord Ashburton, appointed a judge of the supreme court of judicature at Fort William, in Bengal. In his new home he devoted the leisure of the 11 remaining years of his life to researches in oriental literature. One of his first acts was to collect several persons of similar scholarship and tastes, and to form them into a society "for inquiring into the history and antiquities, the arts, sciences, and literature of Asia." Of this body he was the first president; its first volume of memoirs appeared in 1788; and to its "Asiatic Researches" European scholars have been largely indebted. He contributed to the first 4 volumes numerous treatises of great importance. His next object was to acquire a thorough knowledge of Sanscrit, in order to make a digest of Hindoo and Mohammedan laws similar to the codification of Greek and Roman law effected by Justinian. This task he did not live to complete, and it was afterward finished under the superintendence of Mr. Colebrooke; but the ordinances of Manu, the foundation of Hindoo jurisprudence, were translated by him and published in 1794. He also translated *Sakontala*, or "The Fatal Ring," an Indian drama by Kalidasa; the *Hitopadesa*, the original of the famous fables of Bidpay; the tales and fables of Nizami; and portions of the Ramayana and the Vedas. These were but his minor labors, performed in the intervals of official duties, which he discharged with an exactitude and conscientious integrity long remembered at Calcutta both by Europeans and natives. He had decided to return to England, when he was surprised by death. During the latter part of his life he enjoyed a reputation for scholarship unsurpassed by that of any living man. As a linguist he had no superior but Mezzofanti; he was familiar with 27 languages, many of which he had critically mastered, and also the literature which they contained. No predecessor had equalled his attainments in Sanscrit, Arabic, and Persian. "He seems to have acted," says Lord Teignmouth, "on this maxim, that whatever had been attained was attainable by him; and he was never observed to overlook or to neglect any opportunity of adding to his accomplishments or his knowledge. When in India his studies began with the dawn, and, in seasons of intermission from professional duties, continued throughout the day; meditation retraced and confirmed what reading had collected or meditation discovered." His motto, altered from that of Sir Edward Coke, was:

Seven hours to law, to soothing slumber seven,
Ten to the world allot, and all to heaven.

His translations, especially that of *Sakontala*, are as remarkable for elegance as precision; all his writings demonstrate purity of moral feeling, and he was personally esteemed a model of amiability and integrity. The pundits of Bengal wept for his loss, and marvelled at the progress he had made in the sciences which they professed. A collected edition of his works was published in 6 vols. in 1799; a life by Lord Teignmouth was added in 1804; and the whole was reprinted in 1807, in 18 vols.

JONES, WILLIAM ALFRED, an American essayist, born in New York, June 26, 1817. He was graduated at Columbia college in 1838, and has for several years been librarian of that institution. He has been a frequent contributor of literary criticisms to periodicals, chiefly to the "Church Record," "Arcturus," the "Whig Review," and the "Democratic Review." Several revised collections of his essays have been made: the "Analyst, a Collection of Miscellaneous papers" (New York, 1840); "Literary Studies" (2 vols., 1847); "Essays upon Authors and Books" (1849); and "Characters and Criticisms" (2 vols., 1857). He published in 1849 a memorial of his father, David S. Jones, with notices of the Jones family of Queens co.

JONSON, BENJAMIN, commonly called BEN, an English dramatist, born in Westminster in 1578 or 1574, died Aug. 6, 1637. He was the posthumous son of a clergyman, and during his childhood his mother was married a 2d time, according to tradition, to a master bricklayer named Fowler. Ben was educated at Westminster school under the tuition of Camden, and subsequently followed the calling of his stepfather, whom he assisted in building part of Lincoln's Inn. Finding this occupation not altogether to his taste, he enlisted in the army, and served a campaign in the Low Countries. Returning to England, he is said to have entered himself at St. John's college, Cambridge; but this statement, as well as others respecting his early career, is of doubtful authenticity. At about the age of 20 he went upon the stage, meeting, however, with but indifferent success as an actor, and at the same time began either by himself or conjointly with brother dramatists to write plays, beside being employed to alter, adapt, or retouch the works of others. His additions to Kyd's "Spanish Tragedy," made in 1601-'2, are called by Lamb "the very salt of the old play." In 1596 appeared his "Comedy of Humors," which was recast and brought out in the Globe theatre in 1598 under the title of "Every Man in his Humor," Shakespeare, who is said to have aided in the composition of the play, being one of the performers. This work, the first English comedy, deserving the name, in which the story was taken from the domestic life of the people, and their prevailing manners were delineated, is called by Hallam "an extraordinary monument of early genius." About the same time he was imprisoned for killing

Gabriel Spenser, an actor, in a duel, and during his confinement was converted to the Roman Catholic faith, although he subsequently became again a Protestant. "Every Man in his Humor" was succeeded in 1599 by "Every Man out of his Humor," a less able performance, in which the "euphuism" so fashionable at that time is ridiculed; "Cynthia's Revels" (1600); the "Poetaster" (1602), which involved the author in a quarrel with Decker, who retaliated upon him in "Satyromastix;" and "Sejanus," a tragedy (1608), in which Shakespeare is said to have taken his farewell of the stage as an actor. Shortly after the accession of James I., Jonson, in conjunction with Chapman and Marston, wrote the comedy of "Eastward Hoe," containing some reflections on the Scottish nation, in consequence of which the 8 dramatists were imprisoned and threatened with the loss of their ears and noses. After a short confinement they were pardoned, and Jonson commemorated his release by an entertainment at which his mother was present, and declared her intention to have poisoned herself and her son if the threatened indignity had been inflicted upon him. He made his peace with James, and until the death of the latter was employed by him in writing masques and other court entertainments, furnishing at least one annually on Twelfth night. Between 1605 and 1611 appeared his comedies of "Volpone," "Epicoene, or the Silent Woman," and the "Alchemist," and the tragedy of "Catiline." In 1618 he visited the continent as travelling tutor to a son of Sir Walter Raleigh, a position for which he was little fitted and to which he did no credit. He was now at the height of his popularity, a favorite at court and a man of great authority among his contemporaries and associates, as well from his reputation for learning as for his native humor and wit. Among his favorite haunts at this time was the Mermaid club at the Mermaid tavern in Bread street, Cheapside, founded by Sir Walter Raleigh in the beginning of the century, and where he was thrown into the society of Shakespeare and the great Elizabethan dramatists, and of Raleigh, Camden, Selden, Donne, and others. The "wit combats" at the Mermaid between Jonson and Shakespeare have been alluded to by Fuller, in the well known passage in which he compares the former to a Spanish galleon and the latter to an English man-of-war. Unfortunately for literary history, no Boswell has chronicled these meetings. The Apollo club, which met at the Devil tavern in Fleet street, was founded by Ben Jonson himself at a later date. The laws of the club, written by the founder in Latin, were inscribed in letters of gold over the fireplace; and here he presided over a knot of young admirers, who were said to be "sealed of the tribe of Ben," with a literary ascendancy equaling that of Dryden in later times at Wills's coffee house, or of Dr. Johnson at the literary club. In 1619 he received the appointment of poet

laureate with a pension of 100 marks, and about the same time made a pedestrian excursion to Scotland, in the course of which he visited Drummond of Hawthornden, who has preserved some curious notes of his conversation. The character which the Scottish poet has drawn of his guest is that of a man arrogant and conceited, priding himself upon his acquirements and studiously depreciating those of others. These qualities brought him frequently into collision with his contemporaries, and on the title pages and in the prefaces of his unsuccessful dramas he was in the habit of abusing in no measured terms authors, actors, and the public, whom he not unfrequently likened to beasts or fools. His fortunes had been for some time on the wane, when in 1628 he was attacked by palsy, and compelled also by poverty to write for the stage. His "New Inn" was unsuccessful, but Charles I., hearing of his necessities, sent him a present of £100, and raised his salary to that sum, adding a tierce of canary annually, a perquisite which has pertained to the office of the poet laureate to the present time. Notwithstanding this assistance, his improvident habits kept him always in difficulties, and in the latter part of his life he suffered from poverty, or rather from an inability to indulge in the pleasures of his earlier years, which was with him equivalent to it. He wrote 2 or 3 more dramas, which Dryden calls his "dotages," and left the "Sad Shepherd," a fragment of great beauty, though rather poetical than dramatic. It was his last song, and "his laurel remained verdant amid the snow of his honored head." Jonson's pride of learning, which obtrudes itself into some of his best works, has interfered not a little with their popularity as literary performances. His "learned sock" however, was not always palatable in his own time, and his plays were seldom successful until the pedantic passages had been omitted. Whenever he forgets his learning, as in the smaller lyrics scattered through his masques and in some of his dramatic pieces, he displays a true and elegant taste, and a delicacy of fancy unsurpassed by any of his contemporaries, unless by Shakespeare. In the opinion of some of his critics his genius was more poetic than dramatic. His delineations of character are striking, original, and artistic, rather than natural. Fuller has summed up his points as follows: "His parts were not so ready to run of themselves as able to answer the spur; so that it may be truly said of him, that he had an elaborate wit, wrought out by his own industry. He would sit silent in learned company and suck in (beside wine) their several humors into his observation. What was ore in others he was able to refine to himself." His comedies are esteemed his best performances, although only "Every Man in his Humor" and the "Alchemist" in a very abridged form are now performed. His tragedies, founded on classic history, and burdened with long extracts from Sallust, Tacitus, and other Latin authors, are

correct in form, but lack vivacity. He published in 1616 a folio edition of most of his works produced previous to that date, carefully revised and corrected. Various collective editions subsequently appeared, the first good one being that of Gifford (9 vols. 8vo., 1816), accompanied with notes critical and explanatory, and a biographical memoir, written with ability, but in too partisan a spirit. Moxon's reprint, the latest, prefaced by Gifford's memoir, (royal 8vo., 1853), contains 17 plays, 15 of which were performed on the stage; over 80 masques and interludes; epigrams, translations from Horace, an English grammar, and a variety of miscellanies in prose and verse. He was buried in Westminster abbey, and the pithy inscription upon his tomb: "O rare Ben Jonson," was added at the expense of an eccentric Oxfordshire squire, called Jack Young, who, observing the tomb to be destitute of an epitaph, gave a mason 18 pence to carve the words upon it. Recent researches in the state paper office are said to have developed facts in the life of Jonson, presenting his character in a less favorable light than it has usually been regarded, and rendering it probable that a new biography of him will have to be written.

JONSSON, FINNUR, an Icelandic historian, born in Hitardal, Jan. 16, 1704, died July 28, 1789. In 1725 he entered the university of Copenhagen, and in 1728 was present at the fire which destroyed the great collection of Icelandic MSS. formed by his patron Arni Magnússon. In his endeavors to save these MSS. he neglected his own effects and library, which were burned. On returning to Iceland he obtained a benefice, and in 1754 was appointed to the bishopric of Skalholt. His inclinations were opposed to an ecclesiastical career; his motive for embracing it was that he might have the means of educating a large family of children left by his uncle. He wrote many works in Latin and Icelandic, the principal of which is the *Historia Ecclesiastica Islandiæ*, published under the care of his son Hannes Finnson at Copenhagen (4 vols. 4to., 1772-'9). The latter, who succeeded his father in the bishopric, made important additions to this work, edited several sagas, and was the founder of the Icelandic agricultural society.

JOPPA. See JAFFA.

JORDAENS, JACOB, a Flemish painter, born in Antwerp in 1594, died there in 1678. He studied in the school of Adam Van Oort, whose daughter he married. Rubens, whom he imitated, intrusted him with the execution on a large scale of many of his small sketches. He excelled in the representation of Bacchanalian subjects and scenes of festive riot. Of these, the pictures of the "Satyr and the Man blowing hot and cold," and "Pan and Syrinx," are well known specimens. He was an industrious painter, designing and executing with great facility, and in the course of his long life finished an immense number of works.

JORDAN (Hebrew *Hayyarden*, now called

by the Arabian population of Palestine *Es-Sheria* or *Sheriat-el-Kebir*), the only large river in Palestine, and with one or two exceptions the only stream in that country which is perennial. Its sources are on the southern declivity of Mt. Libanus and on Mt. Hermon. Josephus names two, the one at Paneion (now Banyas), and the other at Dan or Daphne (Tell-el-Kadi), and forming together the "Little Jordan." The union of the two streams takes place about 4 miles from Tell-el-Kadi. A third source of the Jordan, larger and longer than the two others, which under the name of Nahr Has bani comes from Hasbeilah, and, after having received several small streams, flows with the two other sources into Lake Merom (now Huleh), is not mentioned by Josephus. On quitting the lake, the river is sluggish and turbid, but is soon purified by passing over a rocky bed where its mud is deposited. About 2 m. below the lake is a bridge called Jacob's bridge, where Jacob on his return from Mesopotamia is said to have crossed. It was built after the crusades, probably in connection with the caravan route from Egypt to Damascus. The breadth of the river at this place has been variously estimated from 64 to 80 feet. About 18 m. below it enters the lake of Tiberias or Gennesareth, which according to Lynch's survey is 653 feet above the sea. Issuing from the S. extremity of this lake, the river enters a broad valley, or *ghor*, by which name the natives designate a depressed tract or plain between the mountains. The Bible calls it "the plain." Its width varies from 5 to 10 m. The river at first winds very much, and flows first near the W. hills, then turns to the E., and continues to the district called Kurn-el-Hemar, then again returning toward the W. side. Lower down it rather follows the middle of the great valley. Its course is so tortuous that within a space of only 60 m. long and 4 or 5 m. broad it traverses at least 200 m. and plunges over 27 formidable rapids. It enters the Dead sea at its N. extremity, after a total direct course of 120 m. Its mouth is 180 yards wide and 8 feet deep. Its principal affluents are the Zurka and Sheriat-el-Mandhur, or Jarmuk. Its breadth and depth greatly vary, which circumstance explains the great discrepancies in the reports of travellers. The sources and the course of the Jordan were explored in 1847 by the English Lieut. Molyneux, and in 1848 by an American expedition under Lieut. Lynch (see "Narrative of the U. S. Expedition to the River Jordan," New York, 1849). As Christ was baptized by John in the Jordan, Christians have often regarded it as a special privilege to receive baptism in its waters, and water is even now occasionally procured from the Jordan for the baptism of princes.

JORDAN, CAMILLE, a French political orator, born in Lyons, Jan. 11, 1771, died in Paris, May 19, 1821. He was a pupil of the Oratorians in his native city, and his liberal opinions were tempered by strong religious sentiment. When scarcely 20 years old he wrote a pam-

phlet against the civil constitution which the national assembly wished to impose upon the French clergy. A decided opponent of the revolutionary government, he distinguished himself in the insurrection at Lyons, and left France on the fall of that city, Oct. 9, 1793. Returning to his native country after the 9th Thermidor, he was elected in 1796 to the council of 500, advocated the principles of religious liberty in a report, and, having opposed the directorial government, was again compelled to seek a refuge abroad after the 18th Fructidor. Recalled in 1800, he energetically opposed the designs of Bonaparte, and denounced the frauds in the election of 1802 in a pamphlet entitled *Vrai sens du vote national pour le consulat à vie*. From that period till the return of the Bourbons he devoted himself exclusively to literature. In 1816 he was elected to the chamber of deputies. A strong adherent of monarchy, he nevertheless supported the most liberal measures, and signalized himself as a member of the opposition after the death of the duke de Berry. He was one of the fathers of the *doctrinaire* school of politics.

JORDAN, DOROTHY, or DORA, an Irish actress, born near Waterford, Ireland, in 1762, died at St. Cloud, July 3, 1816. She was the daughter of a Capt. Bland, an Irish gentleman, who, having married her mother under age, procured the invalidation of the union. At 16 she made her debut in Dublin, under the name of Miss Francis, as Phebe in "As You Like It." She soon, under the name of Mrs. Jordan, by which she was afterward known, was engaged at the York theatre, where she remained for 8 years. She then went to London, and made her first appearance there, Oct. 18, 1785, soon becoming immensely popular in comedy and musical farce. By her talents and remarkable beauty she attracted the attention of the duke of Clarence, afterward William IV. She was at that time under the protection of Mr. Richard Ford, and had several children, but yielded to the admiration of the royal duke. Her children by him were 10 in number, and are known under the name of Fitz-Clarence. At the termination of this connection she went to France, and died there in obscurity and poverty. A monument by Chantrey was erected to her memory at St. Cloud by William IV. after his accession to the throne. Her professional career was brilliant. She was of an amiable character and a kind heart, and her domestic duties were performed with devotion to the interests of her family. Her "Memoirs," written by J. Boaden, were published in 1831. There is some mystery as to her retirement, which is not cleared up by her biographer, and it was generally supposed that she did not actually die at the time and place stated, but that she lived in England for 7 years after under a different name.

JORGENSEN, JORGSEN, a Danish adventurer, born in Copenhagen in 1779, died in New South Wales about 1830. He was a member of the well known Danish family of watch and clock

makers named Jürgensen, but Anglicized the name by writing it Jorgenson. Showing no disposition to engage in the family occupation, he was apprenticed at 14 years of age to the master of an English collier, and subsequently, it is said, served in the British navy as a midshipman. Having returned to Copenhagen, in 1807 he sailed thence in command of a privateer, and was captured and taken to England, where he was put upon his parole. The unprotected condition of the remote Danish colonies at that time suggested to him the idea of an expedition against Iceland, and he succeeded in inducing a London merchant named Phelps to freight a vessel for the purpose of opening a trade with the inhabitants. Jorgenson arrived at Reikiavik in Jan. 1809; but finding that obstacles to commerce were raised by the governor, Count Trampe, he returned to England, and in company with Mr. Phelps made his reappearance in Reikiavik in the succeeding June. A convention had meanwhile been concluded between Trampe and the commander of a British vessel of war, providing for trade between the Icelanders and British subjects; but notwithstanding the solicitations of Phelps and Jorgenson, the governor refused to promulgate it. Under these circumstances the former landed, June 25, with a party of 12 sailors, arrested Count Trampe and took him on board their vessel, and on the succeeding day Jorgenson issued a proclamation that Iceland was free and independent of Denmark. Another proclamation, dated July 11, announced that Jorgenson had assumed the position of protector of the country, with supreme power, until the formation of a regular constitution. No opposition was offered to these proceedings, although the inhabitants of the island numbered upward of 50,000, and the army of Jorgensen did not exceed 8 men, the Icelanders evidently feeling no dissatisfaction at the change of masters. The protector succeeded at the outset by the repeal of various restrictions in conciliating all classes; but his wholesale confiscations of Danish property began presently to excite suspicions as to his character and intentions. In August the British sloop of war Talbot suddenly made her appearance at the island, and her captain, having, upon the application of some of the inhabitants, examined into the transactions of the previous two months, sent both Jorgensen and Trampe to England. The former opened a correspondence with the admiralty, but it having transpired that he was a prisoner of war who had broken his parole, he was confined for a time in Tothill Fields prison. In 1811 he published a work entitled "State of Christianity in Otaheite, and a Defence of the Gospel against Modern Antichrists." Upon the conclusion of the war he travelled on the continent, and in 1817 published "Travels in France and Germany in 1815-17." He subsequently fell into bad habits, and in May, 1820, was tried at the Old Bailey for theft, and sentenced to 7 years' transportation. After several months' confine-

ment he was released on condition of leaving the country; but having failed to do so, he was rearrested and received sentence of death. This was changed to transportation for life, and in 1825 he was sent to New South Wales. Previous to his departure from England he published "The Religion of Christ is the Religion of Nature, written in the condemned cells of Newgate, by Jorgen Jorgenson, late Governor of Iceland" (8vo., London, 1827).

JORNANDES, or according to the oldest MSS. JORDANES, a Gothic historian, who lived about the middle of the 6th century. He was at first one of the notaries or rather secretaries of the king of the Alani, who inhabited Messia, and afterward, becoming a convert to Christianity, he embraced the monastic state. It has been said, but without proof, that he was bishop of some city of Italy. He wrote *De Getarum sive Gothorum Origine et Rebus Gestis*, which is chiefly an extract from Cassiodorus's lost "History of the Goths." Notwithstanding its many shortcomings and incorrect style, it is an important work. He left also, under the title *De Regnorum ac Temporum Successione*, a dry synopsis of universal history, which has been generally printed at the end of his Gothic history. The 1st edition of the latter is that published by Pentinger with Warnefrid's "History of the Lombards" (Augsburg, 1515). It has been frequently reprinted in various historical collections; the last and most correct edition is to be found in Muratori's *Scriptores Rerum Italicarum*.

JORTIN, JOHN, an English divine and author, born in London in 1698, died in Kensington, Sept. 5, 1770. He was graduated at Cambridge in 1719, and after holding various livings he became archdeacon of London in 1764. He was a voluminous and elegant writer. His most important works are: "Observations upon Authors, Ancient and Modern;" "Remarks on Ecclesiastical History;" "Life of Erasmus;" and *Lusus Poeticus*, a small volume of Latin poetry. He also wrote criticisms on Spenser, Milton, Tillotson, and Seneca, and published several volumes of sermons.

JORULLO, a volcano of Mexico, in the department of Valladolid, lat. 19° 9' N., long. 103° 51' W., about 120 m. E. from the Pacific. It is one of the 5 volcanoes which are ranged upon an E. and W. line extending across Mexico. These are Tuxtla, Orizaba, Popocatepetl, Jorullo, and Colima. Jorullo stands upon the plain of Malpais, a portion of the great platform the elevation of which is 2,000 to 3,000 feet above the level of the sea. Around this plain are hills of basalt and ancient volcanic rocks; but up to the middle of the last century the region was not known to be subject to volcanic action. It was under cultivation, and watered by two streams, the Quitimba and San Pedro. In June, 1759, earthquakes began to be frequent, and so continued to the end of September, when flames burst forth from the ground, and rocks were hurled upward to great heights. A chasm

opened on a line extending N.N.E., S.S.W., and on this 6 volcanic cones were formed; the least rising 800 feet above the plain, and Jorullo 1,700 feet. Streams of lava flowed forth from it, and the eruptions continued till February of the next year. In 1808 the locality was visited by Humboldt. He found around the central group an area of about 4 square miles which appeared to have been raised up in convex form, the portion near to the cones being about 550 feet higher than the margin of this area, and the slope at an angle with the horizon of about 6°. Scattered over this surface were thousands of small mounds called *hornitos* or little ovens, 6 to 9 feet high, from which issued steam and sulphurous vapors. The plain was traversed by large fissures, which sent forth similar exhalations. The two little rivers were lost beneath the surface on the E. side, and appeared again on the W. as hot springs. The ground was still hot, but had been gradually cooling since the time of the great eruption. Humboldt was of the opinion that the whole raised surface had been puffed up from its former level by a force applied beneath. Mr. Scrope, however, suggests that the elevation was more probably caused by the accumulation of lava flowing from the several outlets near the centre; and he states in support of this view that lava currents elsewhere cool at angles with the horizon about the same as those of the slopes around Jorullo. In 1827 it was observed that the vapors had ceased to appear from the *hornitos* or *fumaroles*, and at the bottom of the crater there were but faint exhibitions of them. The ground had then become cool, the natives were again cultivating the more fertile tracts upon the plain, and the new hills were covered with a thick growth of wood.

JOSEPH, son of Jacob and Rachel, having a younger brother Benjamin and 10 elder half brothers. He was envied by his brethren on account of his father's partiality toward him; and their aversion was increased by two dreams that he told, in which was foreshadowed his pre-eminence in the family. Conspiring against him, they sold him for a slave to a caravan of Arabian merchants, and he was taken to Egypt. There he rose to the highest power in the house of Potiphar, an officer of Pharaoh. The wife of Potiphar, stung by his rejection of her licentious advances, caused his imprisonment on a false charge; but his successful interpretation of the king's dreams soon raised him to supreme authority at the court. One of the dreams foretold a famine, against which he made ample provision, and such was his distinction that he married the daughter of the high priest of On or Heliopolis. While the famine prevailed, his brethren came from Canaan to Egypt to purchase corn. He at once recognized them, and after a period of delay in which he became convinced that they had lamented and repented of their former cruelty to him, he made himself known to them, and appropriated to Jacob and his family the land of Goshen. The Egyptian

people were at length obliged to pay with their land for food from the public granaries, so that "Joseph bought all the land of Egypt for Pharaoh," and the whole territory of the country, excepting that of the priests, was let to the population as tenants. The story of Joseph is one of the most interesting portions of the Mosaic writings. He died at the age of 110 years, and left two sons, Manasseh and Ephraim, who, being adopted by Jacob, took their place among the heads of the tribes of Israel.

JOSEPH, the spouse of Mary the mother of Jesus Christ. He was of the tribe of Judah, and a descendant of David. St. Matthew and St. Luke give his genealogy, the former making him the son of Jacob and descended from David through Solomon, and the latter calling his father Eli and tracing his lineage through Nathan. This discrepancy is explained in various ways. Julius Africanus supposes that Jacob and Eli were brothers, and that Eli dying without children, Jacob married his widow, who bore him Joseph. The child was thus the son of Eli according to the Mosaic law, but of Jacob according to nature. Other commentators assume that the genealogy given by St. Luke is that of Mary. It is not known where Joseph was born. He lived at Nazareth, where, according to the received tradition, he followed the trade of a carpenter, when he was betrothed to Mary. Finding her pregnant, he was minded to put her away; but being warned by an angel in a dream that she was with child of the Holy Ghost, he took her to himself, but knew her not till she had brought forth her first born son, who was called Jesus. Joseph is supposed to have died before the crucifixion of the Saviour, but there is little mention of him in the Scriptures. He is held in high honor in the Roman Catholic church, and March 19 is assigned as his festival. In painting he is represented with a lily or flowering branch.

JOSEPH I., emperor of Germany, of the house of Hapsburg, eldest son of Leopold I. by his 3d wife, born July 26, 1678, died in 1711. He was elected titular king of Hungary and Rome at an early age, and after the death of his father succeeded to his hereditary possessions, as well as to the imperial throne of Germany in 1705, inheriting at the same time a double war, against Louis XIV. for the succession of his brother Charles to the throne of Spain, and in Hungary against the revolted patriots under Francis Rákóczy. He was willing to make concessions to the Protestants of Hungary and other provinces, frequently attempted to negotiate with the insurgents, and readily yielded to the demands of Charles XII. of Sweden in behalf of the Protestants of Silesia, which country the young conqueror crossed on his march from Poland to Saxony without even asking the permission of the distracted emperor. The victories of Marlborough and Eugene in the war of the Spanish succession allowed Joseph, who had personally taken part in the siege of Landau, to send considerable forces against the

Hungarians, and dissensions which broke out in the camp of the latter slowly prepared a final triumph of the imperial arms. Shortly before the death of Joseph, Count Pálffy succeeded in concluding a treaty with the insurgents at Szatmár, in the absence of Rákóczy. Joseph was of a mild disposition, and exceedingly fond of ceremony and of the chase. He founded an academy of sciences and arts at Vienna, and a national bank. He was succeeded by Charles VI.

JOSEPH II., emperor of Germany, elder son of Francis I. and Maria Theresa, born March 13, 1741, died Feb. 20, 1790. His mother, the last offspring of the original Austrian line of Hapsburg princes, had acquired her right of succession to the various hereditary thrones of her father by the pragmatic sanction of the latter, and the supreme power in Germany by the election of her husband Francis of Lorraine (subsequently of Tuscany) to the imperial dignity; but she had scarcely ascended the throne when all her claims were disputed by a number of enemies, among whom Frederic the Great of Prussia was the ablest and most dangerous. When Joseph was born, his mother placed him and her rights under the protection of the Hungarian nation, which gallantly responded to her confidence, and Prince Batthyányi afterward took the principal charge of his education. Ambitious, but obstinate, Joseph gave proofs of considerable capacity. Languages, mathematics, war, and music were the studies to which he devoted most of his zeal. He participated in none of the campaigns of the 7 years' war, though this was waged in the years of his advanced youth, and though he admired no less the military glory of its hero, Frederic, than he did after its close his peaceful career. He successively married and lost without issue a princess of Parma and a princess of Bavaria. Made titular king of Rome in 1764, he became emperor of Germany on the death of his father in the following year; but this was then little more than an empty title, and in the hereditary possessions of his mother he received only the dignity of assistant without any real influence, though placed at the head of military affairs. Impatient of the inactivity to which he was doomed while wearing the crown of the Cæsars, Joseph at various periods undertook extensive travels incognito, traversing not only the countries which were to be ruled by his sceptre, Hungary, Bohemia, &c., but also non-Austrian Germany, Italy, Spain, Holland, and France. In the last named country, where his sister Marie Antoinette still shared the popularity of her royal husband, with whom she was destined also to share the scaffold, he was received with the admiration which naturally attached to a monarch who in his diet and dress imitated the frugality of a Marcus Aurelius, and who after the death of his father had burned his 22,000,000 florins of paper money, in order to restore his private inheritance to the state. In Germany he had an interview with Frederic in his camp at Neisse in Silesia, a province which that king

had wrested from the empire of Maria Theresa. Frederic in the following year (1769) repaid the visit at Neustadt in Moravia, where Joseph not only strove to display the perfections of his army, upon which he bestowed his principal cares, and into which he had introduced various liberal reforms, but also concerted with his guest the scheme, unparalleled in the history of diplomatic iniquity, of dismembering Poland, which was eagerly acceded to by Catharine II. of Russia, but somewhat reluctantly by the more conscientious Maria Theresa. This extraordinary act was executed in 1772, and added Galicia and the Zips to the empire of Austria. A few years later Bukovina was taken from Turkey. Bavaria, the elector of which died in 1777, was also to be annexed, but Frederic suddenly marched into Bohemia; and Joseph, who eagerly grasped the opportunity of measuring his strength with that of the renowned conqueror, was compelled by the order of the old empress peaceably to terminate the short struggle of succession. In 1780 he went to Mohilev to see Catharine, with whom schemes of Russian and Austrian aggression in Turkey and Italy respectively were agreed upon. Soon after his return his mother died, and the reign of the imperial philanthropist, so long impatiently looked for by liberal Europe, began. The long suppressed desire of totally transforming his empire and its nations, nourished by a love of the people, and a certainly not less ardent ambition, now found full satisfaction. Reform followed reform, radical changes were undertaken without hesitation, all prejudices spurned, all constitutional checks or historical considerations discarded. Equality, centralization, and uniformity were the leading principles. Serfdom was abolished, German was made the official language everywhere, new codes were introduced, the press was almost entirely made free, hundreds of convents, including 86,000 of the younger monks, were dissolved, and all others placed under the bishops; the bulls of the pope were made dependent upon the *placet regium*; the bulls *Unigenitus* and *In Vena Domini* were expunged from the Austrian rituals; and by the celebrated edict of toleration, which, however, excluded deists, the Protestants were set on a perfectly equal footing with the Catholics. All this was executed without consulting any legislative or deliberative body, and the private rights of individuals were as little considered as the privileges of classes, or the prejudices and ignorance of the masses. The people were to be enlightened and made happy by decrees, all obstacles violently removed, and the refractory punished. Pius VI., who personally repaired to Vienna, strove in vain to check or moderate the reformatory movement. But in the mean time the interests which had been so violently assailed by these changes, having their defenders in the most powerful and most influential classes of society, were active in preparing the overthrow of the new system. Nobles, priests, and patriots were united in secret opposition.

The dissatisfaction was most intense in Hungary, Brabant, the Tyrol, and Bohemia. In Transylvania a bloody rising of the Wallachian peasantry against the nobles, under Hóra and Kloska, was slowly suppressed (the enemies of the government said, not without intention) and most cruelly punished. Joseph's attempt to exchange the Austrian Netherlands for Bavaria was prevented by Frederic's last great act of external policy, the formation of the *Fürsten-Bund* (confederation of princes) in 1785. Unflinching amid all these difficulties, Joseph proceeded in his course of reform, and, eager to add military glory to the fame of his internal achievements, visited Catharine at Kherson during her triumphal progress through the southern regions of her empire (1787), and finally concerted with her the long meditated war against Turkey. It was soon begun. Joseph opened it by a sudden attack on Belgrade, but suffered a repulse, which was followed by the defeat at Lugos (1788), and other disasters. A part of the army was lost, when Joseph returned to his capital, with a fatal malady, while victory followed the banners of the Russian generals. Brabant, which had long been in open rebellion, declared its independence, Hungary was violently agitated, and it availed Joseph little that Laudon partially restored the fortunes of the war in 1789. The revolution in France brought new dangers. Broken in spirit, Joseph, shortly before his death, which was attributed by some to poison, abrogated all his innovating decrees (Jan. 1790), except that of toleration, and lived to witness the joy with which the downfall of the lofty edifice of his philanthropy and ambition was hailed by his subjects.

JOSEPH BONAPARTE. See BONAPARTE.

JOSEPHINE (MARIE JOSEPH ROSE TASCHE DE LA PAGÈRIE), empress of the French, 1st wife of Napoleon I., born at Trois Îlets, near St. Pierre, Martinique, June 24, 1763, died at Malmaison, near Paris, May 29, 1814. Her father, whose family had emigrated from the vicinity of Blois, France, held the office of captain of the port at St. Pierre. She received the very imperfect education that was then imparted to young ladies in the French colonies; but her native grace and kindness of heart endeared her to all with whom she became acquainted. She was a great favorite among the black population in her neighborhood, and an old negro woman is reported to have foretold her future brilliant destiny. When about 15 years of age she was sent to France, and one year later, Dec. 18, 1779, married Viscount Alexandre de Beauharnais, like herself a native of Martinique, and then a major in an infantry regiment. By this union, which was far from being completely happy, she had a son, Eugène, afterward prince, and a daughter, Hortense, who became queen of Holland by her marriage with Louis Bonaparte, and was the mother of Napoleon III. Viscount de Beauharnais, although he had been one of the promoters of the revolution in the constituent assembly, and had faithfully served

his country in arms, was arrested upon suspicion during the reign of terror, and sent to the scaffold, July 28, 1794, leaving Josephine in distress. Her efforts to procure the release of her husband had caused her own imprisonment; and her two children were reduced to such extremities that Eugène entered a carpenter's shop as an apprentice. After the 9th Thermidor she was liberated through Mme. Tallien's influence, and became an ornament of the new society which was now forming. At Barras' receptions she met Bonaparte, then an obscure officer. He fell desperately in love with her, although he was 6 years her junior, and married her, March 9, 1796. Twelve days later he was appointed to the chief command of the French army in Italy. He wrote often to his wife during his campaigns, and in June, 1797, had her brought by his aide-de-camp Junot to Milan. She shared all the honors that were bestowed upon her husband either by the people or the directorial government, and was with great difficulty prevented from accompanying him to Egypt. During their separation certain personal enemies found means to make Bonaparte suspect his wife's fidelity, and he even resolved upon suing for a divorce on his return; but a single interview with Josephine revived all his passionate affection. After the 18th Brumaire she removed with Bonaparte to the Luxembourg, and afterward to the Tuileries; and while he pursued his campaigns she attracted to her court the distinguished men of the time of all political opinions, and by her affable disposition, generosity, and captivating manners, won universal respect and affection. She employed herself in behalf of the royalists, procuring the erasure of many names from the list of *émigrés*, and even saving the lives of those who conspired against the first consul. Her fondness for extravagant expenditure, far from diminishing her popularity, increased it, as it contributed to revive commerce, industry, and the arts; so that when Napoleon assumed the imperial title, the French nation hailed with enthusiastic applause the elevation of the "good Josephine." She was solemnly crowned, in Paris, on Dec. 2, 1804. But her happiness was soon marred by sad forebodings; she had no children by her imperial husband, and in the eyes of this great politician a direct heir was essential to the preservation of his power. After many struggles between his love and his ambition, Napoleon, partly by entreaties, partly by using his sovereign authority, prevailed upon his wife to consent to a divorce. The formal act of application was performed, with apparent sadness on his part, and dignified resignation on hers, Dec. 16, 1809, in presence of the arch chancellor and members of the imperial family. The divorce having been declared on the following day, evidences of national sympathy for the fallen empress showed that she was far from having lost any thing of her power over the French people, while her behavior commanded the admiration of even foreign princes. Her own enthusiastic attach-

ment to Napoleon remained unimpaired; and she would have been ready to follow him in his exile, when in his turn he fell from his throne, but their respective situations did not allow such a step. The esteem in which she was held by the allied sovereigns protected her during the disasters of 1814; she was several times visited at Malmaison by the emperor Alexander and the king of Prussia. But her health was now failing; and the anxieties to which she was a prey hastened her death, which was caused by an aggravated inflammation of the throat. Her remains were deposited in the church of Ruel, where a monument was erected in her honor. A statue of her was also inaugurated in 1859 at Fort de France, Martinique. The most important events in the life of this popular princess are faithfully narrated in Thiers' "History of the Consulate and the Empire," while her whole career has been chronicled by Joseph Aubenas in his recent *Histoire de l'impératrice Joséphine* (2 vols. 8vo., Paris, 1859). See also *Lettres de Napoléon à Joséphine pendant la campagne d'Italie, le consulat et l'empire* (Paris, 1827); and *Lettres de Joséphine à Napoléon et à sa fille* (Paris, 1838). The *Mémoires de Mlle. Lenormand sur Joséphine* have little value; those of Mme. Avrillon (3 vols., Paris, 1831) deserve more credit.

JOSEPHUS, FLAVIUS, a Jewish historian, born in Jerusalem in A. D. 37, died about 100. His father belonged to the highest sacerdotal family, and his mother was descended from the Asmonean princes. He received a superior education, was often consulted even from his 15th year by eminent men on recondite questions of the Jewish law, and acquired an extensive acquaintance with Greek literature. He studied with great care the doctrines of the 3 Jewish sects, and passed 8 years in the desert with the ascetic Essenes, after which he remained by creed as by birth a Pharisee. At the age of 26 he was sent to Rome to plead the cause of some Jewish priests arrested by the procurator Felix, and, escaping from a shipwreck on his way, was introduced to Poppæa, the wife of Nero, and not only effected the liberation of his friends, but received many presents from the empress. Returning to Jerusalem, he attempted to dissuade the Jews from the revolt on which they were bent, but failing in his efforts he joined the war party, though, knowing well the resources of Rome, he was convinced that the struggle could only end in the ruin of his country. He was appointed one of the generals and deputed to defend the province of Galilee, and he made vigorous and for a time successful preparations against the Romans, though vehemently opposed by a strong party in the council at Jerusalem led by John of Giscala. On the approach of Vespasian in 67 he threw himself into Jotapata, the strongest of the Galilean cities, where he maintained a desperate resistance for 47 days. Escaping from the massacre which succeeded its fall, he took refuge in a cave, but was betrayed to the

Romans. He thereupon assumed the character of a prophet, and, professing to derive his knowledge from the sacred books of the Jews, announced to Vespasian that the Roman empire should one day be his and his son's. Confidence in him was increased by the discovery from prisoners that he had foretold the exact number of days that the siege of Jotapata should last. He was not, however, released from bonds till, Vespasian having become emperor, Titus succeeded to the control of the Jewish war. He was present at the siege of Jerusalem, suspected as a traitor by both Jews and Romans, and accompanied Titus on his return to Rome, where he passed the remainder of his life in literary pursuits. He was presented with the freedom of the city, an annual pension, and a house which had formerly been an imperial residence. He was 8 times married, and was divorced from his first 2 wives. Pride in the ancient glories of his nation, awe of the greatness and power of Rome, personal vanity, and a tendency to unbounded flattery of the Flavian family, appear with equal prominence in his writings. In a much disputed passage he alludes to Christ as something more than man, to his miracles, Messiahship, death, and resurrection in accordance with the prophecies; but there is no evidence that he was a Christian. His principal works are: a "History of the Jewish War," written in Hebrew, translated by himself into Greek, and published about 75; and a treatise on "Jewish Antiquities," completed about 98. The Hebrew original of neither of them is extant. The former extends from 170 B. C. to the fatal war which terminated in the destruction of Jerusalem, of which it gives a detailed narrative; and the latter includes the period from the creation to A. D. 66, and manifests a desire to conciliate heathen readers. He also wrote his own biography, and a treatise against Apion on the antiquity of the Jewish nation. An account of the martyrdom of Eleazer, and of 7 youths and their mother, entitled *Εἰς Μάρτυρας*, has been ascribed to him, but is of doubtful genuineness. The best editions of his works are by Hudson (Oxford, 1720), Havercamp (Amsterdam, 1726), and Dindorf, in Didot's *Bibliotheca Græca* (Paris, 1845). The principal English translations are by Lodge (1602), L'Estrange (1702), Whiston (1787), and Dr. Robert Traill, who died, leaving finished only "The Jewish War," which was edited by Isaac Taylor (2 vols., London, 1847.)

JOSHUA, the successor of Moses in the command of the Israelites, born about 1537, died about 1427 B. C. He was the son of Nun, of the tribe of Ephraim. He gained the victory over the Amalekites at Rephidim, accompanied Moses to Mt. Sinai, was deputed with 11 others to explore the land of Canaan, was appointed by Moses with the divine sanction to the command of the Israelites, led them into the promised land, and divided the country among the tribes. He governed Israel during 25 years, and his history is contained in the canonical book of

Joshua, of which he has usually been regarded as the author, though some late critics suppose it to have been written either in the time of David, or near the Babylonian exile. There is a Samaritan book of Joshua (published in Arabic and Latin by Jwynboll, Leyden, 1848), which is a chronicle of events from the death of Moses to the time of Alexander Severus.

JOSIAH, the 17th king of Judah, son of King Amon, born in 647, succeeded to the throne in 639, died in 609 B. C. Unlike his immediate predecessors, he did right in the sight of the Lord, and undertook to free the land from idolatry, though the groves and altars consecrated to idol worship were favored by men of rank and influence in the kingdom. Having accomplished this purpose in the 18th year of his reign, he proceeded to repair and adorn the neglected temple of the Lord. In the sanctuary there was found a volume containing the books of Moses, which seems to have been regarded as the original copy of the Mosaic law. Soon after this he ordered the celebration of the pass-over with a care and magnificence unexampled from the time of the judges. Being tributary to the Babylonian empire, he resisted the passage through his territories of the Egyptian king Pharaoh-necho, on an expedition against the Chaldeans, and fell in the battle of Megiddo between the Hebrew and Egyptian forces.

JÓSIKA, MIKLÓS, baron, a Hungarian novelist, born in Torda, Transylvania, in 1796. He studied law, and in 1812 entered the Austrian army, which he left in 1818 with the rank of captain of cavalry. Having married, he lived alternately on his estates in Transylvania and in Pesth, chiefly engaged in literary pursuits, but also active as a member of the liberal opposition party of his country. After the reunion of Transylvania with Hungary in the spring of 1848, he became a member of the upper house of the Hungarian diet, was a decided supporter of Kossuth, and on the resignation of the Batthyányi ministry was appointed member of the committee of defence. He followed the revolutionary government to Debreczin, and after its overthrow effected his escape to Brussels, where he still resides, continuing his activity as an author. Condemned to death in his absence, he was hanged in effigy in Pesth in 1851. Jósika is one of the most popular and prolific writers of his country; among his most remarkable works are the historical novels *Abafi* (1836, 8d ed. 1851), *A utolsó Báthori* ("The Last of the Báthoris"), *A Csehok Magyarországon* ("The Bohemians in Hungary"), *Zrínyi a Kőltő* ("Zrinyi the Poet"), *Jósika István* ("Stephen Jósika"), and *Esther* ("Esther," 1853); all translated into German, partly by Klein, partly by the author's second wife Julia Podmaniczky, whom he married in 1847. His more recent publications, written in exile, have appeared anonymously.

JOST, ISAAC MARCUS, a German author of Jewish birth, born in Bernburg in 1798. He studied at Göttingen and Berlin, was appointed teacher in the latter city in 1816, and in 1835

principal teacher of the Jewish *Realschule* in Frankfort-on-the-Main, which position he still holds. He has written numerous historical, linguistic, and other works. His best known publications are: *Geschichte der Israeliten* (9 vols., Berlin, 1820-'28); *Allgemeine Geschichte des jüdischen Volkes* (2 vols., 1832); *Neuere Geschichte der Israeliten* (8 vols., 1846-'7), containing the history of the Jews since 1815; and *Geschichte des Judenthums* (8 vols., Leipzig, 1857-'9). He has translated the Mishna into German (6 vols., 1832), and in 1839-'51 edited the *Israelitische Annalen* (Frankfort).

JOTUNS, JOTNEN, or JETTEN, in Scandinavian mythology, giants, representing the rude powers of nature, and in some respects corresponding to the Titans of the Greeks. They were fabled to inhabit Nifheim, the region of darkness, cold, and ice, and to wage continual war with the Asen, or gods who symbolized the more genial elements, such as light, warmth, and vegetation. From Ymer, first of the Jotuns, the world was made. The ice in Nifheim having been melted by the sun rays from Muspelheim (the land of light and heat), the thaw gave birth to the first Jotun Ymer, and to the cow Ardumbra, which by licking the salt rocks generated the first man Bure. From himself Ymer begot the giant race of the Hymthussen, but was shortly after slain by Odin, Wila, and We, Bure's grandsons. His blood became the sea, his flesh the earth, his bones the rocks and mountains, his skull the heavens, his brain the clouds, and his eyebrows the ramparts defending Midgard, the home of men. In a historical point of view the Jotuns appear to have been the aboriginal inhabitants of the north of Europe, who long maintained a contest with a later wave of immigration from the East in Odin and his companions. According to northern fable, the Jotuns were mighty giants controlling the ruder forms of nature, and inhabiting caves. Their sons were mighty rivers and floods, and their daughters clear, rippling brooks, often so beautiful as to win the love of the highest among the gods. Regarding the Jotuns in the light of men, they were probably the same race as the Thussen or Thursen, and belonged to the nation of the Finns.

JOUFFROY, THÉODORE SIMON, a French philosopher, the greatest moralist of the eclectic school, born in the hamlet of Les Pontets, Doubs, July 6, 1796, died in Paris, Feb. 4, 1842. After attending the college of Nzeroy, he was confided in 1807 to the care of his uncle, an ecclesiastic and professor in the college of Pontarlier, with whom he remained 4 years, and was then transferred to the college of Dijon. Rollin was the first author in whom he took delight, and history continued through his life to be a constant and favorite study. He had already attempted a tragedy, when in 1814 he was selected as a brilliant pupil for admission into the normal school. Theological meditations had led him to the highest problems, and he describes himself as at this time uncertain

about the enigma of human destiny, yet detesting incredulity, and resolute to solve the question by the light of reason, since he had lost that of faith. He was thus in a condition to be strongly impressed by the youngest of his masters, Victor Cousin, whose eloquent lectures decisively directed his vocation to philosophy. In 1817 he became pupil-assistant in the philosophical department of the normal school, at the same time lecturing in the Bourbon college, and fulfilled both tasks till his health obliged him to resign the latter in 1820. By the suppression of the normal school in 1822, he was deprived of public employment for 5 years, and in the interval he delivered a private course of lectures, attended by the élite of the young men of the capital; published philosophical articles in the *Globe* and other journals and reviews, one of which, entitled *Comment les dogmes finissent*, added much to his reputation; translated the "Moral Philosophy" of Dugald Stewart (Paris, 1826), to which he furnished an elaborate preface; and began his translation of the complete works of Thomas Reid (6 vols., Paris, 1828-'35), to which he added several of the lectures of Royer-Collard, and a preface in which he undertook a complete examination of the Scotch philosophy. In 1828 he was made assistant professor of ancient philosophy in the faculty of letters of Paris, and, interested rather in philosophy than its history, treated of the faculties of the soul in a course of lectures on the first "Alcibiades" of Plato; and in 1830 became adjunct professor of the history of modern philosophy, and delivered his *Cours du droit naturel* (2 vols., 1835; a 3d vol. was edited after his death by Damiron, 1849), his most eloquent work, which treats at once of ethics, psychology, and theodicy. In 1831 he was elected to the chamber of deputies, and in 1833 was appointed to the chair of Greek literature and philosophy in the college of France, and elected to the academy of the moral and political sciences. In 1835 he was obliged to abandon his various duties to seek a restoration of his health in Italy, and on his return in 1838 resigned his professorship in the college of France to succeed Larmignière as librarian of the university. His feeble voice and calm and methodical mind alike unfitted him to excel in the chamber of deputies, though from his abilities and personal character he always commanded attention. In 1840 he was called into the royal council of public instruction, and, being appointed to draw up the address of the new ministry, maintained that its administration should be distinguished by some broad difference from that which had preceded it. Finding himself in a minority, his disappointment had a fatal influence on his already broken health. He languished till his death, in serenity and firmness of mind, seeking complete solitude; only his wife and children were allowed to approach him, the blinds of his windows were closed and the light excluded, and he remained to the last as if in calm and deep meditation. As a metaphysician, Jouffroy

adopted and hardly went beyond the psychological standpoint of the Scotch school. One of his most original theories is his distinction between the psychological and the physiological life, or the personal and impersonal life, different from that ordinarily made between the soul and body. The former is an extraordinary original power, directing our natural capacities, and moulding our whole existence to the intelligent accomplishment of its existence; the latter is human nature as subjected to its necessary laws and impulses. Every faculty that we possess is regarded as being developed either, on the one hand, according to the necessary laws of human nature, or, on the other hand, under the sway and direction of our personal power. These faculties he thus classifies: the personal faculty, imperfectly designated by the name of liberty or will; the primitive inclinations, or the aggregate of natural instincts or tendencies, prior to all experience; the locomotive faculty; the expressive faculty; sensibility; and the intellectual faculties. As a moralist, he has given a peculiar explanation of good and evil. Every thing is good in proportion as it aids in the fulfilment of our destiny. The problem of human destiny therefore lies at the foundation of morality. There can be no *à priori* judgment as to the moral quality of actions, since that is relative to the agent, depending on the influence they may have on the destiny for which he was created. Good, in the case of any particular being, is the fulfilment of its own specific destiny; good, in itself, is the fulfilment of the destiny of all beings; and an interruption in the accomplishment of destiny constitutes evil. The style of Jouffroy is remarkably clear, forcible, and elegant, and his writings have great literary merit irrespective of their philosophical contents. His principal works, not already mentioned, are the *Mélanges philosophiques* (1833), containing 28 essays, most of which had before appeared in periodicals; the *Nouveaux mélanges philosophiques*, edited by Damiron (1842); and the *Cours d'esthétique*, also edited by Damiron (1843). His *Cours du droit naturel* has been translated into English under the title of an "Introduction to Ethics," by W. H. Channing, and a selection from his essays under that of "Philosophical Miscellanies," by G. Ripley, in Ripley's "Specimens of Foreign Literature" (Boston, 1838-'40).

JOURDAN, JEAN BAPTISTE, count, a French general, born in Limoges, April 29, 1762, died in Paris, Nov. 23, 1833. He enlisted in the army when scarcely 16 years old, served 5 years in America under Count d'Estaing, and was discharged in 1784. He then became a merchant's clerk, and had married a milliner and adopted her business when the revolution broke out. He became a lieutenant of the national guards, and was in 1791 elected to command a battalion of volunteers; he joined the army of the north, distinguished himself in Belgium under Dumouriez, was appointed brigadier-general in 1793, and 4 months later promoted to

the rank of general of division. Wounded at the battle of Hondschoote, he had scarcely recovered when he was placed in command of the army of the north. He drove the imperial troops from their position at Wattignies, Oct. 16, 1793, and was called to Paris to consult with the committee of public safety; but being unexpectedly placed on the retired list, he returned to his shop at Limoges. But his services could not well be dispensed with, and on April 15, 1794, he received the command of the army of Moselle. A few days later he was transferred to that of Sambre-et-Meuse, with which he won (June 26) the celebrated battle of Fleurus, executed several other successful operations, and drove the Austrians beyond the Rhine. In 1795 he displayed uncommon talents in crossing that river. In 1796 he advanced into Germany, and defeated Orléans at Altenkirchen; but being subsequently worsted near Würzburg by the archduke Charles, he was obliged to fall back, and resigned his command. In 1797 he was elected to the council of 500, where he procured the adoption of the law of military conscription. He was president of that body in Oct. 1799, when he resigned his legislative functions to assume the command of the army on the Danube. After a short and unsuccessful campaign, he returned to Paris, was re-elected to the council of 500, refused to participate in the plans of Bonaparte for the subversion of the directorial government, and was one of the members excluded from that body on the 19th Brumaire. He nevertheless was sent by the first consul on a special mission to Piedmont, and reconciled that country to the French domination. He was appointed marshal of the empire and grand eagle of the legion of honor in 1804, but received no important command. He lived in comparative inactivity until he was appointed in 1806 governor of Naples, and became the principal adviser and friend of Joseph Bonaparte. He accompanied Joseph to Spain, with the title of major-general of the armies of his Catholic majesty; but he had, as such, neither authority nor influence, and was not answerable for the reverses of the French armies in the Peninsula from 1808 to 1813. He was treated by Napoleon with a coldness amounting to disgrace. In 1814, having assented to the deposition of Napoleon, he received a peerage from Louis XVIII. He joined Napoleon during the Hundred Days, but on his defeat at Waterloo went back to the Bourbons, was created a count, then governor of the 7th military division, and in 1819 peer of France. On the revolution of July, 1830, he held for a few days the ministry of foreign affairs, and was appointed by Louis Philippe governor of the Invalides. He was an honest man, and died poor.

JOURNALISM. See NEWSPAPERS.

JOUSSOUF, or YUSUF, a French general, born either on the coast of Provence or in the island of Elba, between the years 1807 and 1810. Kidnapped, when a mere child, by corsairs, he was taken to Tunis and sold to the bey, who

had him educated according to the Moham-
medan creed and placed him in his body guard.
A love affair with the daughter of his master
exposed him to imminent danger, escaping from
which he took refuge on board a French brig,
landed at Algiers in 1830, enlisted in the French
army, and soon reached the rank of captain in
the 1st regiment of *chasseurs d'Afrique*. In
1831 he was intrusted, as an interpreter, with
several perilous missions, which he successfully
performed. In 1832 he took part in the capture
of Bona, which he held with desperate valor.
He distinguished himself in the expedition
against Tlemcen in 1836, and received the title
of "bey of Constantine." In 1837 he repaired
to Paris, where his romantic reputation and
handsome person made him a "lion" in the
highest society. On his return to Africa, he
served as lieutenant-colonel of spahis from
1838 to 1841, and then as colonel commanding
the irregular cavalry in 1842. He participated
in nearly every campaign under Marshal Bu-
geaud, who appointed him brigadier-general on
the battle ground of Isly. On his second visit
to Paris, in 1845, he embraced the Christian
faith and married a niece of Gen. Guilleminot.
Resuming active service, he distinguished him-
self in various encounters with Abd el Kader,
took part in the Laghouat expedition in 1852,
commanded the division of Algiers in 1855, and
finally figured conspicuously in 1857 in the in-
vasion of Kabylia under Marshal Randon.

JOUST. See TOURNAMENT.

JOUY, VICTOR JOSEPH ÉTIENNE DE, a French
author and journalist, born in 1764 in the village
from which he derived his name, died in St.
Germain-en-Laye in 1846. Having enlisted in
the army when a boy, he went to South America,
and then to India, where he was introduced to
Tippoo Sahib, and met with some remarkable
adventures. He afterward participated in the
first campaigns of the French revolution, reach-
ed the rank of major, found himself involved in
several difficulties, and at the age of 33 was
placed on the retired list. He now devoted
himself entirely to literature, produced several
light comedies, and in 1807 gained considerable
reputation by *La vestale*, a lyric poem, set to
music by Spontini; this performance 8 years
later was rewarded with one of the great de-
cennial prizes. He continued his efforts in the
same line, composing the libretti for Spontini's
Fernand Cortez (1807), Catel's *Les bayadères*
(1810), Cherubini's *Les Amazones* and *Les Aven-
cerres* (1812-'13), and Rossini's *Moïse* (1827)
and *Guillaume Tell* (1829). He also attempted
tragedy. His *Tippo-Sahib* was performed in
1813; *Sylla*, for which Talma's acting, and
especially his wonderful resemblance to Napo-
leon, secured a remarkable success, in 1821;
Bélisaire in 1825; and *Julien dans les Gaules*
in 1827. Jouy was meanwhile an active con-
tributor to several periodicals. A series of his
sketches was collected in 1812 under the title
of *L'hermite de la chaussée d'Antin*, which was
compared with Addison's "Spectator." Under

the restoration he took an active part in pol-
itics, and held a high rank among the opposition
journalists, being one of the principal writers
for the *Constitutionnel*. His attacks brought
the wrath of the government upon him and his
friend Jay; both were incarcerated for a few
months, which considerably added to their pop-
ularity, and was the occasion of their publish-
ing *Les hermites en prison* (1823) and *Les her-
mites en liberté* (1824). After the revolution
of July, 1830, he was appointed librarian at the
Louvre by Louis Philippe, who granted him also
in his later years an apartment in the chateau
of St. Germain. He published his own *Œuvres
complètes* (27 vols. 8vo., Paris, 1828-'7).

JOVELLANOS, or JOVE-LLANOS, GASPAR
MELCHIOR DE, a Spanish statesman and poet,
born in Gijón in Asturias in 1744, died Nov.
27, 1811. While yet a youth he is said to have
been learned to a remarkable degree in law,
languages, history, antiquities, and literature.
In 1767 he was appointed a judicial magistrate
at Seville, and in 1778 was called to Madrid as
one of the principal magistrates of the capital
and court. In 1780 he was raised to a place in
the "council of orders," where he soon proved
himself to be the first philosophical statesman
of Spain. While Charles III. lived Jovellanos
exercised great influence, but after the death of
that monarch in 1788 court cabals and enemies
attacked him with violence. He proposed a tax
on the higher clergy, to fill the treasury exhaust-
ed by the war against the French republic, and
this proved the cause of his exile in 1790 to the
mountains of Asturias. He was recalled in 1797
and made minister of justice, but in the next year
he was again sent to Asturias by the intrigues
of Godoy, who hated and feared him. In 1801
he was banished to the island of Majorca. He
recovered his liberty in 1806, on the fall of Go-
doy, was elected member of the supreme junta,
and was offered by King Joseph the ministry of
the interior, which he declined. His native city
being occupied by the French, he took refuge
on a small vessel, and after a stormy passage of
8 days arrived at Vega, where he died within
48 hours after landing. "Jovellanos left be-
hind him," says Mr. Ticknor, "few men in any
country of a greater elevation of mind, and
fewer still of a purer or more irreproachable
character." Among his works are the *Memo-
rias políticas*, which have been translated into
French, many important political and statistical
memoirs, and a collection of poetry, containing
El delincuente honrado, a comedy, which had
great success in Spain, and which has been
translated into French and English, and fre-
quently played in Paris and London.

JOVIANUS, FLAVIUS OLAUDIUS, Roman em-
peror, died in 364, after a reign of 7 months.
He was the son of Varronianus, one of the
greatest generals of his age. He was captain
of the body guards of the emperor Julian, and
participated in his fatal campaign against the
Persians. After the fall of Julian, he was pro-
claimed emperor by the legions, and declared

himself a Christian. His army was in the midst of a hostile country, from which his first care was to extricate it. But Sapor, the Persian monarch, so harassed his march with repeated attacks, that Jovianna, to save his army from destruction, consented to an ignominious peace, which restored to the Persians all the possessions wrested from them by Julian. On reaching the Roman territory, the emperor caused an edict to be issued which forbade the persecution of Christians, and restored the supremacy of their religion; but he would not permit the pagans to be oppressed on account of their belief. On the way to Constantinople he arrived, Feb. 16, 864, at Dadastana, an obscure village of Galatia, where he was found dead in his bed the next morning—whether suffocated by a charcoal fire with which the room had been warmed, or overcome by intemperance, or the victim of poison, is uncertain.

JOVIUS, PAULUS. See GIOVIO.

JUAN FERNANDEZ, or MAS-A-TIERRA, an island in the S. Pacific, about 400 m. from the coast of Chili, to which it belongs, in lat. 88° 40' S., long. 79° W.; pop. about 40. It is 15 m. in length and 6 in breadth; area, nearly 65 sq. m. The surface is in general rugged and mountainous, but the valleys are numerous and fertile. The climate is pleasant and healthful. The principal productions are oats, turnips, apples, strawberries, melons, peaches, figs, sandal wood, and cork. Wild goats are also abundant, while large quantities of excellent fish are taken off the coast. There is a safe and convenient harbor on the N. E. side of the island, which is much frequented by vessels as a watering station. The loftiest of its mountains is Yungue, whose summit is nearly 4,000 feet above the sea. Juan Fernandez has been leased by the Chilean government to a company who catch and prepare fish there. In the 16th and 17th centuries it was a favorite resort of the buccaneers. In 1704, Alexander Selkirk, a Scotchman, who was sailing master of the *Cinque Ports*, an English privateer, was put ashore here at his own request, well supplied with clothing, instruments, and arms, and remained in solitude till 1709. His story is commonly said to have been the foundation of Defoe's "Robinson Crusoe," and Juan Fernandez is often termed Robinson Crusoe's island. But from the title of Defoe's romance, which in consequence of its length is abridged in the modern reprints, and from the details given in the narrative itself, it has been inferred that Robinson Crusoe's island was not in the Pacific, but on the N. coast of South America near the mouth of the Orinoco. The full title begins as follows: "The Life and strange surprising Adventures of Robinson Crusoe, of York, mariner, who lived eight and twenty years all alone in an uninhabited island on the coast of America near the mouth of the great river Oroonoke, having been cast on shore by shipwreck," &c. The real prototype of Robinson Crusoe may therefore have been Peter Serrano, a Spaniard who was wrecked on

an island in the Caribbean sea, not far from the mouth of the Orinoco, in the 16th century, and lived there many years in solitude, and was finally taken off by a passing vessel. An account of his adventures is given in Sir Paul Rycant's translation of Garcilasso's "Commentaries of Peru," which was published in London a few years before "Robinson Crusoe" was written, and was a popular and conspicuous book, which could not have escaped Defoe's notice.

JUANES, JUAN BAUTISTA, sometimes incorrectly called Vicente Joannes, a Spanish painter, born in Valencia in 1523, died in Bocairente near Valencia in 1579. The Spanish writers rank him with the great artists of the age of Leo X., and style him the Spanish Raphael. His subjects were all selected from sacred history. His *chef d'œuvre* is the "Baptism of Christ," in the cathedral of Valencia.

JUAREZ, BENITO, a Mexican president, born in 1807 in a village near Jatlan, at present known as Villa Juarez, in the state of Oajaca. He is descended from pure aboriginal stock, and was born in humble circumstances. At an early age he was received into the service of a wealthy family of Oajaca, who assisted him in his education. Afterward he prepared himself for the profession of the law, in which he gained distinction. Devoted to liberal ideas, he took an active part in politics as a member of the legislature of his native state. He successively went through the whole range of the judicial organization of his state, from the position of justice of the peace to that of presiding judge. In 1846 he was elected deputy to the constitutional congress in the city of Mexico. He took a very prominent part in the administration of the law known in Mexico by the appellation of *manos muertas* (mortmain), by which a loan was imposed upon the clergy to supply the necessities of the existing war with the United States. From 1848 to 1852 he officiated with success as governor of his native state. During the period of peace he devoted himself to the opening of roads, the increase of primary and higher schools, and the reform of the financial administration; and on retiring from the government, he left in the public treasury a considerable sum of money. In 1858, under the administration of Santa Anna, he was banished from the country, spent a short time in Havana, and thence proceeded to New Orleans, in which city he resided until April or May, 1855, when he left it for Acapulco to join Alvarez, whom he accompanied to Oernavaca. In that city he discharged the functions of representative of the state of Oajaca in the assembly empowered to choose a temporary president of the republic. Alvarez was selected, and Juarez became minister of justice. While in this office he promulgated the law abolishing the privileges of the clergy and the army which is known as the *ley Juarez*. Alvarez having retired from the presidency in Dec. 1855, after having appointed Gen. Comonfort as his substitute, Juarez left the cabinet in conjunction with all the other ministers. Comonfort then

appointed him governor of Oajaca, the administration of which office he assumed when the revolution which had broken out there rendered the discharge of his mission very difficult. He succeeded, however, in effecting the immediate pacification of the state, and sent forth armed forces for the reestablishment of order in other parts of the republic. The term of the provisional administration having expired by the promulgation of the constitution of 1857, he was elected constitutional governor of the state of Oajaca, and was in the discharge of the duties of this post when, in Nov. 1857, President Comonfort made him secretary of state, and subsequently he was appointed president of the supreme court of justice. After the withdrawal of Comonfort from the government (Jan. 1858) Juarez became, in virtue of his office, constitutional president of Mexico. On Jan. 19 he established his government in Guajuato. The reverses of civil war afterward compelled him to remove it to Colima. As in this city he was separated from the rest of the republic—which recognized the constitutional government, with the exception only of the city of Mexico and 8 or 4 others, in which the so called conservatives had large garrisons—he determined to proceed by way of Panama to Vera Cruz, and arrived there on May 4, 1858, where he has since officiated as the head of the constitutional government.

JUARROS, DOMINGO, a Central American ecclesiastic, synodal examiner of the archbishopric of Guatemala. He is the author of a history of Guatemala, entitled *Compendio de la historia de la ciudad de Guatemala*, in 6 books (Guatemala, 1800-'18). It embraces accounts more or less complete of the 5 ancient provinces (now republics) of Central America, viz.: Guatemala, San Salvador, Honduras, Nicaragua, and Costa Rica.

JUBA. I. King of Numidia, son of Hiempsal (who had been restored to his throne by Pompey), died by his own hand in 46 B. C. Juba succeeded to the throne on the death of his father, and in the conflict between Cæsar and Pompey he sided with the latter, both from enmity to Cæsar, with whom he had quarrelled on an official visit to Rome during his father's lifetime, and from friendship for the man to whom his father owed his crown. The moment Curio, Cæsar's lieutenant, landed in Africa (49 B. C.), Juba hastened to the succor of Attius Varus, the commander of Pompey's forces. Varus had already been defeated by the Cæsareans under the walls of Utica; but on the approach of Juba, Curio retreated and assumed a strong post near the sea. He was drawn from his position by a stratagem, and overthrown, himself being slain, and his army almost cut to pieces. Juba sullied the glory of this victory by cruelty, causing some cohorts of cavalry who had surrendered to be massacred. He enjoyed his kingdom in peace till 46 B. C., when Cæsar arrived in Africa to crush the last remnant of the Pompeian faction. Then Bocchus,

king of Mauritania, was incited to invade Juba's dominions, and a Roman force was sent to cooperate with him. He heard of their inroad while on the way to join Scipio, the Pompeian commander, and turned against them, but finally went to Scipio's aid. The rival hosts encountered at Thapsus, and the result proved fatal to the Numidian and his allies. Juba, fleeing from the field, wandered about for a few days as a fugitive, and then in despair killed himself. After his death his kingdom was formed into a Roman province, of which Sallust was the first governor. II. King of Mauritania, son of the preceding, died about A. D. 18. He was a child at the time of his father's death, fell into the hands of the conquerors, and was carried prisoner to Rome. He was brought up and educated in Italy, and ultimately became one of the most learned men of the age. Augustus, whom he accompanied to the East, formed a high opinion of him, and at the settlement of affairs subsequent to his return to Rome, he restored to him his paternal kingdom, and gave him the daughter of Antony and Cleopatra in marriage. At the request of his patron, however, he afterward exchanged Numidia for the two provinces of Mauritania, and some portion of the Gætulian territory. Few of the details of his life are known. In the reign of Tiberius he was obliged to call in the Romans to repress the desert tribes. He was the author of valuable works in almost every department of knowledge, but all have perished save their titles and a few brief extracts. The most important of them were a "History of Africa," based principally on Carthaginian authorities; a "History of Assyria;" a "History of Arabia;" a treatise on "Roman Archæology;" a "History of Theatres;" a "History of Painting and Painters;" and two treatises on botany and medicine.

JUBILEE, a Hebrew festival, celebrated every 50th year. According to the Hebrew ritual, every 7th year as well as every 7th day was observed as a period of rest. To avoid the difficulty of supposing two successive years to be thus observed, some critics have endeavored to prove that the year of jubilee was the 49th instead of the 50th. During this year there was neither sowing nor reaping, all depending alike on the spontaneous products of the earth. Slaves became free, and every one resumed possession of his inheritance, however it had been alienated. Unlike the sabbatical year, however, the jubilee did not annul debts. The design of this institution was to check the rise of any great inequality of social condition, and to prevent the rich from oppressing and enslaving the poor, or from appropriating their lands. It also strengthened the bonds of families, and bound the people to their country, by leading them to cherish an affection for estates derived from their ancestors and to be transmitted to their posterity. The jubilee did not continue to be observed after the Babylonian captivity.—In the middle ages, the term was applied to the year in which all who visited the church

of St. Peter at Rome for a certain number of days with pious offerings received plenary indulgence. A jubilee was first declared by Pope Boniface VIII. in 1800, and was to recur every 100 years. The time was limited by Clement VI., Urban VI., and Paul II. respectively, to 50, 88, and 25 years, and the last period still remains the ordinance of the Roman Catholic church. The condition of visiting Rome is no longer in force, certain works of charity or devotion being substituted for it.

JUDÆA, in ancient geography, is variously used to designate the whole of Palestine or the land of the Jews, especially during the period between the Babylonish captivity and the last wars of the Jews; the southern kingdom of the Hebrews, or that of Judah, in contradistinction to that of the 10 tribes or of Israel; or the southern division of Palestine W. of the Jordan in the time of the Asmoneans and Romans, between Samaria on the N., the Jordan and the Dead sea on the E., Idumæa and the desert on the S., Egypt on the S. W., and the Mediterranean on the W. The limits of Judæa in each of these acceptations were continually varying. (See PALESTINE, and HEBREWS.)

JUDAH (Heb. *Jehudah*). I. The 4th of the sons of Jacob by Leah, founder of the most numerous of the tribes of Israel, which, having received all the land bounded by Dan, Benjamin, the Dead sea, Idumæa, Simeon, and the Mediterranean, became powerful under the dynasty of David, which originated in one of its towns, Bethlehem, and, after the division of the Hebrew state into two kingdoms, the principal member and representative of the southern, named after it. After the destruction of the northern kingdom by the Assyrians, Judah became the common name of the Hebrew nation in general, and the name Jews (Heb. *Jehudim*, Lat. *Judei*) is derived from it. Jerusalem, the capital of the united state, and afterward of the southern division, was situated within the limits of the tribe of Judah, on the confines of Benjamin. The mountain of Judah was a range traversing its centre, and the desert of the same name near its southern boundary. II. Surnamed HAKKADOSH (the Holy), a celebrated rabbi of the 2d century, of the house of Gamliel, and one of his successors as *nasi* (patriarch), was the principal author of the Mishna. He was a friend of one of the Roman emperors, whom Rapoport, the most competent critic on the subject, identifies with Marcus Aurelius. III. HALLEVI, or HA-LEVI (the Levite), a Spanish rabbi of the 12th century, called as an Arabic writer ABUL HASSAN. He distinguished himself as a physician, philosophical theologian, and poet, in the latter capacity being unsurpassed, if not unequalled, by any post-biblical writer in Hebrew. Shortly before the middle of the 12th century he made a pilgrimage to the land of his fathers, a part of which he sings in glowing strains of pious devotion; but before reaching the holy city every trace of him is lost. According to a tradition he was killed by a

Mussulman before entering its gate. His principal work is the *Khusari* ("The Khazar"), a vindication of the truth and exposition of the principles of Judaism, in fictitious discourses on religion between a king of the Khazars (who was converted to that faith about 4 centuries before the time of the author) and a rabbi. It was translated from the Arabic into Hebrew by Judah ben Tibbon, into Latin by Buxtorf, and also into Spanish and German. His songs, which among others contain the gems of Hebrew liturgical poetry, have found numerous translators and editors, among the most recent of whom are Luzzato, Sachs, Dukes, and Geiger (*Der Divan des Castiliens Abul-Hassan-Judaha-Levi*, Breslau, 1851). His elegy on Zion was translated into German by Mendelssohn.

JUDAS ISCARIOT, one of the 12 apostles, the betrayer of his master. He was the son of Simon, was appointed treasurer of the apostles, covenanted with the chief priests to deliver Christ up to them for 80 pieces of silver (at the highest computation about 22 dollars), accomplished this purpose, repented when he saw his Lord condemned and buffeted, offered to restore the money, confessed that he had betrayed innocent blood, and in despair committed suicide, hanging himself according to Matthew, falling and bursting asunder according to Luke. Many interpreters suppose that the motive of his betrayal was to oblige Jesus, in self-defence, to announce himself as the expected king Messiah, to surmount the emergency by his miraculous powers, and to open to himself, the apostles, and the Jewish kingdom the anticipated career of aggrandizement. "The difference," says Archbishop Whately, "between Iscariot and his fellow apostles was, that though they all had the same expectations and conjectures, he dared to act on his conjectures, departing from the plain course of his known duty to follow the calculations of his worldly wisdom and the schemes of his worldly ambition."—See Whately's "Discourse on the Treason of Judas Iscariot," in his "Essays on Some of the Dangers to Christian Faith" (London, 1839).

JUDAS MACCABÆUS. See HEBREWS.

JUDD, SYLVESTER, an American author and clergyman, born in Westhampton, Mass., July 23, 1813, died in Augusta, Me., Jan. 20, 1853. He was graduated at Yale college in 1836, and subsequently embraced the Unitarian creed. He entered the divinity school of the university at Cambridge in 1837, completed his theological studies in 1840, and was ordained as pastor of the East parish in Augusta, Me., on Oct. 1. In 1843 he began the work on which his literary reputation chiefly rests, "Margaret, a Tale of the Real and Ideal," &c. (12mo., Boston, 1845), which has been illustrated by a series of outline drawings by Felix O. O. Darley (New York, 1856). In 1850 he published "Philo, an Evangelist," a didactic poem in blank verse, and in the same year "Richard Edney," a romance. An old Indian tradition suggested to Mr. Judd a dramatic poem in 5 acts, "The White Hills, an

American Tragedy," still unpublished. A volume entitled "The Church, in a Series of Discourses," was published posthumously in 1854; and his "Life," by Mrs. Arethusa Hall, was published in the same year.

JUDE, SAINT, surnamed **THADDEUS** (the zealot), or **LEBBEUS**, one of the apostles, a relative of Jesus, probably a son of Alphaeus and brother of James the Less. No circumstances of his life are related. According to the traditions of the West, he preached and suffered martyrdom in Persia. According to eastern traditions, he labored in Arabia, Syria, and Palestine, and died in Edessa; or, according to others, visited Assyria also, and died in Phoenicia. He is commemorated in the western church on Oct. 8. The genuineness of the Epistle of Jude, one of the canonical books of the New Testament, was disputed as early as the time of Jerome, chiefly because it cites the two apocryphal books of "Enoch" and the "Assumption of Moses." Most critics have, however, maintained it. It is written with vehemence and fervor, seems to have been addressed to converted Jews in Asia Minor and beyond the Euphrates, and contends against Gnostic, Nicolaitan, and other dangerous doctrines.—See the "Last of the Epistles; a Commentary upon the Epistle of St. Jude," by Frederic Gardiner (Boston, 1856).

JUDGES OF ISRAEL. See **HEBREW**s.

JUDGES, Book of, one of the historical books of the Old Testament, narrating the deeds of the 13 judges of Israel from Othniel to Samson. It is a fragmentary rather than a complete and connected history, the fullest accounts being given of Deborah and Barak, Gideon, Jephthah, and Samson. It begins with showing that the calamities suffered by the Hebrews after the death of Joshua were due to their apostasy from Jehovah. It is supposed by many modern critics that the first 16 and the remaining 6 chapters are by different authors. The first portion, believed to have been written before the time of David, is ascribed to Samuel. Among the more important commentators on the book are Le Clerc, Rosenmüller, Maurer, Stader, and the American biblical scholar George Bush.

JUDGMENT, in law, a solemn determination of a question, declared by a court of record. The language used in a judgment is, that "it is considered by the court," &c., the theory being that the function of the court is not to give its own decision, but to ascertain and pronounce the decision of the law. To give validity and full force to a judgment, the court which renders it must have competent jurisdiction over the case, or be authorized by law to entertain and determine the question which it decides; the case must have been properly brought before the court; and the trial must have proceeded with due regard to all those forms and acts which are established by law, to prevent surprise, neglect, or error. A judgment may be arrested and avoided, if, within the time prescribed by the rules of the court, it can be shown that there are intrinsic defects appearing

of record, which are of sufficient importance. For, the judgment being founded upon the record, it cannot stand if the party against whom it is rendered can show that the record is inconsistent with it or insufficient for it. The more common instances of this are where there is an irreconcilable contrariety between parts of the record; as, for example, where the judgment is founded upon a verdict which is essentially different from the pleadings at issue.—Judgments are of many kinds, for the reason that they must conform to the pleadings and issue. They are usually classed as judgments upon demurrer, on a verdict, on confession, on default, or on nonsuit. (See **PLEADING**.) A judgment is also interlocutory or final; and the best definition of an interlocutory judgment is to say that it is any judgment which is not final, or which does not entirely dispose of the whole question. A judgment that is final and valid is the highest assurance known to the law. Such judgments were formerly extensively used in England to operate as conveyances of land; the party to whom the land was to be transferred commencing an action for it against the party who was to transfer it, and this being concluded by a judgment that the land in question belongs to the plaintiff.—From the high and solemn nature of a judgment, the doctrine of merger was applied to it. If one sues another on his promise, or indebtedness of any kind, or for wrong of any kind, and recovers judgment, it is a technical rule of law that the original cause of action merges or is lost in the judgment. There is seldom any practical mischief arising from this, as the judgment itself can be sued as well as the former cause of action; but in modern times, and in the United States, a party would undoubtedly be permitted to resort to his original cause of action, unless the judgment had been not only rendered but satisfied, provided it could be shown that he would suffer injury by loss of his original right. So, too, it was a well established rule of law, that if one brought an action against another for depriving him unlawfully of his property, and recovered a judgment for damages, this judgment vested in the defendant a right or title to the property, although the damages were never paid nor the judgment satisfied in any way. The reasons were, that a judgment vests absolutely in the plaintiff a right to the damages, and the law supposes that what should be done will be done, and therefore that the defendant will satisfy the judgment. The effect of the rule was, and so far as it is in force is, that if A borrows B's watch and refuses to return it, and B sues him and recovers \$100 damages, as soon as the judgment is rendered the watch belongs in full property to A, although he never pays one dollar of the damages. It was impossible that a rule so inequitable as this could be uncontradicted. Able judges have declared that the judgment must be satisfied before it could have this effect. Although the cases are quite irreconcilable, we should say, resting very much on the high

authority of Chancellor Kent (2 Commentaries, 388), that the prevailing rule in the United States would not permit a mere unsatisfied judgment to have this effect.—There is no doubt whatever that a judgment of a court of record may be made the foundation of a suit. If it be the judgment of a competent court in the same state, it proves itself; and no defence can be made which does not distinctly impeach it for fraud, or for essential error; and even then the proper course might be to have the judgment itself vacated. If it be the judgment of a court of another of the United States, it falls within that clause in the federal constitution which provides that "full faith and credit shall be given in each state to the public acts, records, and judicial proceedings in every other state," and authorizes congress to provide the manner in which they shall be proved. Congress, by an act passed May 26, 1790, made this provision. In a case which arose under it, the supreme court of the United States held that it was the intention of the constitution to do more than make the judgments of state courts *prima facie* evidence in other courts; and any judgment, duly authenticated, if it would be considered record evidence of the highest nature and conclusive at home, must be so considered in every other state.—As to the force and effect of a judgment rendered in a foreign country, we are not aided by legislation, but must depend upon the principles of the common law; and that is undoubtedly the same upon this point in the United States that it is in England. The question, how far a foreign judgment, *proprio vigore*, has force and validity, has indeed been discussed in many cases, in both countries, and with some diversity in the conclusions. On one extreme stand those who would make it a mere *prima facie* evidence, open to rebuttal by any evidence tending to show that it ought not to have been rendered. Where this doctrine is held, it is plain that the whole case may be tried over again in the action on the judgment, with the burden of proof on the party who would set it aside. Against this are those who hold the opposite extreme, that a foreign judgment is as conclusive as a home judgment. The law on this subject both in the United States and in England (8 Sumner, 600; 16 Ad. and Ellis, N. S. 717) may now be considered as resting on a medium ground. First, it is certain that no sovereign state is bound to execute a judgment or decree of any foreign state. Next, a foreign judgment is valid and conclusive, provided: 1, that the court rendering the judgment had full jurisdiction of the case; 2, that the case was properly brought before that court and properly tried; 3, that there is nothing in the unquestionable law of the case which forbids or contradicts the judgment; and 4, that it was not obtained by fraud, deception, or oppression. The civilians of the continent of Europe generally maintain the absolute validity of a foreign judgment. But the courts of France have never yet recognized the validity of a foreign judgment, to the

extent to which this is now admitted in England and the United States; although the recent adjudications of that country indicate a much nearer approach than formerly to what may be called the English view of "the comity of nations" in this respect.—Not only may a judgment be made the foundation of a suit, but a former judgment may be relied upon as a defence against a suit which would raise the same question anew. This ancient and important rule is never denied in its general form; and it rests upon the obvious principle that there must be, at some time and by some means, an end of litigation. Therefore, if a question be once tried by a proper tribunal, and in a proper way, and solemnly decided, it is decided for all time, and cannot again be brought up for consideration. In other words, a judgment rendered is conclusive upon the merits of a question; and this rule is now applied, with the qualifications above stated, to a foreign judgment. When it is applied to a home judgment, another difficult question arises, upon which, it must be admitted, the highest authorities stand in conflict, viz.: If a former judgment be offered as a bar to an action, must it appear by the judgment itself, together with the record of the suit, that the question now to be considered was raised and considered in the former case; or, if neither the judgment nor the record, nor both, indicate that the same question was tried before, can this be shown by evidence? Some courts, in their unwillingness to have the merits of a question litigated more than once, have carried this rule so far, for example, as to lead to the conclusion, that if A. sued B. for a house and land, B. could say in defence that the question of their right and title had been tried once and solemnly decided in his favor; and could make out this defence by a record of a former judgment in which A. sued B. for an assault and battery and judgment was rendered for B., if he could then show that B. admitted in the former action the assault and battery, but justified them on the ground that A. persisted in staying in the house in question against the order of B., who thereupon, by the assault and battery alleged, put him out of the house; and that A. admitted all this, only denying that the house belonged to B. and insisting that it belonged to himself; and the only question at the trial was, to whom did the house belong. Undoubtedly, the disposition to let a question which is once determined so remain, is as strong in the courts of the United States at this time as ever. But the ancient rule would have required that the former trial of the question should be proved by record; and that it should have been tried as a direct issue, and not collaterally and as it were incidentally. This we hold to be the prevailing rule at present; and we regard it as resting on sufficient grounds, in the danger there might be in thus permitting one case to determine another case, on the mere evidence of witnesses unsupported by record.—For the lien on the real estate of the judgment debtor created by the judgment, see *LIEN*.

JUDITH, daughter of Merari of the tribe of Reuben, widow of Manasseh, celebrated for her deliverance of her native city Bethulia when besieged by the Assyrian general Holofernes. It is uncertain whether she lived before or after the Babylonish captivity. Mourning the death of her husband during the siege of the town, and noted for her beauty, she went forth in rich attire to the camp of the enemy, played a faithless part, attracted Holofernes by her charms, and on the third day, when she was alone with him in his tent, and he was intoxicated, struck off his head with a falchion, and bore it into Bethulia. In the morning the Israelites attacked and discomfited the Assyrians, panic-struck at the loss of their general. She lived to the age of 105 years, and the Jews are said to have instituted an annual festival in honor of the victory. The history is contained in the apocryphal book of the Old Testament which bears her name, which, according to De Wette, could not have been written later than the first Christian century, and was probably written much earlier. Calmet supposes the narrative to be a parable and not a real history, an opinion which is now shared by many critics.

JUDSON, ADONIRAM, an American Baptist missionary, born in Malden, Mass., Aug. 9, 1788, died at sea, April 12, 1860. He was the son of the Rev. Adoniram Judson, a Congregational clergyman, and descended from William Judson, who came to New England in 1834. He was graduated with the first honors at Brown university in 1807, and opening a private school in Plymouth, Mass., immediately afterward, he commenced the preparation of his "Elements of English Grammar," and "Young Ladies' Arithmetic," which were published successively in 1808 and 1809. The sceptical views which he had previously held, and which seem to have been the effect of current French infidelity acting upon his peculiar constitution and habits, yielded to an examination of the evidences of Christianity, and his profession of religious faith was made May 28, 1809, in the third Congregational church, Plymouth, of which his father was then pastor. He had already entered the second class at Andover theological seminary, not as a candidate for the ministry, but as an inquirer after truth, and in 1810 his studies in that institution were regularly concluded. In 1809 he read Dr. Buchanan's celebrated sermon entitled "The Star in the East," which became the occasion of his devoting himself to the missionary enterprise. He found kindred spirits in some of his fellow students at Andover, and a formal application for counsel and encouragement, addressed by Adoniram Judson, jr., Samuel Nott, jr., Samuel J. Mills, and Samuel Newell, to the general Congregational association of Massachusetts, became the incipient step toward the formation of the American board of commissioners for foreign missions. Impatient at the slow progress of the American movement, he embarked for England, under an invitation previously re-

ceived, to consult with the directors of the London missionary society in regard to the practicability of cooperation with that society by the newly formed American board. The vessel in which he embarked was captured by a French privateer, and the young missionary soon found himself in a prison in Bayonne, France. Released on parole, through the influence of an American gentleman, he reëmbarked for England, where he arrived in May, 1811, and was offered for himself and his associates appointments and support from the London society, but the plan of cooperation was declined as unadvisable. Turning homeward, he arrived at New York in August, and in September was present at the meeting of the American board at Worcester. Here his eloquent importunity, united with that of one of his colleagues, triumphed over the continued tendency to delay, and Judson, Newell, and Nott, with Gordon Hall, were appointed by the board its missionaries to the Burman empire. Luther Rice was subsequently added to their number, and the 5 young men were ordained at Salem, Feb. 6, 1812. Mr. Judson's marriage with Miss Ann Hasseltine had occurred the day previous to his ordination, and on the 19th of the same month they, with Samuel and Harriet Newell, embarked from Salem for Calcutta. At this place, and at Madras, they were subjected for a full year to much annoyance by the East India company's regulations. Finally they found refuge in flight to Rangoon, in the Burman empire, the place of their original destination, where they arrived in July, 1813. Meanwhile Mr. and Mrs. Judson had adopted the views of the Baptist denomination, and having been baptized by Dr. Carey, English Baptist missionary at Serampore, had surrendered their connection with the American board. Mr. Rice, arriving at Calcutta by another vessel, had on his voyage pursued similar studies with similar results, and had returned to America to enlist the Baptists of the United States in the support of foreign missions. Traversing the entire country, this eloquent and earnest advocate was successful in awakening a missionary spirit among the American Baptists, and in effecting an organization among them for missionary purposes. The Baptist general convention, called since 1845 the American Baptist missionary union, was formed at Philadelphia in April, 1814, and immediately appointed Mr. and Mrs. Judson its missionaries. Established in Rangoon, the field now left to them by the closing of the English Baptist mission, they applied themselves with great zeal to the acquisition of the language, without grammar or dictionary, or teachers who could speak English. Mrs. Judson earliest attained the power to converse; Mr. Judson's habits of thorough philological inquiry rendered his progress less rapid, but made his mastery of the language equal to that of native scholars. In 8 or 4 years he published a "Summary of the Christian Religion," a catechism, and a translation of the Gospel of Matthew. In

March, 1817, an intelligent Burman, accompanied by his servant, presented himself to Mr. Judson as an inquirer; in April, 1819, the first *sayat* (an edifice which is both a caravansary and a place for public meetings) was opened for Christian worship; and on June 27 in the same year the first native convert was baptized. At the close of the year 1820 the number of baptized converts was 10. Meanwhile the mission had been reinforced by the arrival of additional missionaries, and the impression which it was making had, in 1819, excited the displeasure of the new viceroy. Mr. Judson determined to appeal to the king for toleration, and, with his colleague Mr. Oolman, ascended the Irrawaddy to Ava for that purpose. He was admitted to an audience, but the plea was unavailing. Believing that they had made a mistake in appealing to the king, and fearing that this measure would bring upon the converts the vengeance of the government, they had well nigh formed the purpose of removing to a safer place in Aracan, but were deterred by the steadfast courage of the native Christians. In 1821 the continued ill health of Mrs. Judson compelled her to return for a time to the United States, where, after a short stay in England, she arrived in Sept. 1822. While in this country she published her "History of the Burman Mission," and by her presence and her personal appeals contributed largely to increase the missionary zeal of the American churches. In the spring of 1823, with her health but partially restored, she embarked for Calcutta, accompanied by Mr. and Mrs. Wade as recruits to the mission, and rejoined her husband at Rangoon in the autumn of the same year. During her absence the number of converts had been nearly doubled, and Mr. (now Dr.) Judson had completed a translation of the New Testament, as well as an epitome of the Old. Their residence had been transferred to Ava by request of the king, who was anxious to command the medical services of Dr. Price, a missionary physician who was colleague with Dr. Judson. The sudden breaking out of war however between the East India company and the Burman government brought upon the missionaries, and other foreign residents at Ava, the severest privations, perils, and sufferings. For nearly two years no tidings came of the fate of the missionaries. Three Englishmen residing at Ava having been arrested by the native authorities and examined, it was found that the accounts of one of them showed considerable sums of money paid to Drs. Judson and Price, and, ignorant of the methods of transmitting funds by bills of exchange, the government saw in this fact proof of their complicity with the English in the war. On June 8, Dr. Judson was arrested at his dwelling by a posse of officers, thrown into the "death prison" with all the other white foreigners, and loaded with chains. Mrs. Judson was kept a prisoner in her own house, under the guard of 10 ruffianly men; but on the third day a message to the governor of the city, expressing a desire to appear before him with a

present, resulted in an order for her release. Further gifts secured the promise of an amelioration of her husband's sufferings, and permission to visit him in prison; and by the same means all the prisoners were delivered from their suffocating confinement, and placed in an open shed within the prison enclosure. Hither she sent food and mats for them all, commencing those angelic ministries to the sufferers which have rendered her name immortal. Next, her anticipations were raised by the prospect of a successful petition to the queen; then came the confiscation of Dr. Judson's effects, the most exact lists of them being made by officers in attendance. Careful for the future, she secreted a considerable sum of money, alike indispensable to her support, and to any successful intervention in behalf of her husband, and saved likewise numerous articles which, during the long imprisonment, proved of inestimable value. Then followed the disappointment of all her hopes by the refusal of the queen to interfere. Again she was refused admittance to her husband, and the sufferings of the prisoners were increased; and again relief to them was purchased by her judicious use of presents. Seven months thus passed away, during which she employed her time in devising and executing measures for the comfort of the prisoners, and especially for the release of her husband, scarcely a day passing in which she did not visit some member of the government, or some branch of the royal family; with no other effect, however, than that she and the objects of her solicitude were kept from despair by the encouraging promises of a capricious court. New miseries were still in store. The hot season had arrived, and the sufferings of the prisoners had become intolerable. The birth of a child suspended for a brief period these ministries of Mrs. Judson. Twenty days after this event she was again at the prison, and again in the presence of the governor pleading for ameliorations. Returning to the prison from an interview which the governor had requested, she found the white prisoners all removed. She ran in every direction, making inquiries in vain, until at length she learned from an old woman that they had gone toward Amarapoora, the old capital, distant 6 miles. "You can do nothing for your husband," said the governor; "take care of yourself." She obtained a passport, and set off, first in a boat, and then in a cart, for Amarapoora. Arriving there, she learned that the prisoners had just left for Oung-pon-la. Here she found them, chained two and two, and almost dead from fatigue and suffering. Here they spent the next 6 months, subjected to continual oppression and extortion. The king was at length forced to ask conditions of peace of the British, and in Feb. 1826, Mr. and Mrs. Judson were permitted to rest under the protection of the British flag, in the camp of Gen. Sir Archibald Campbell, who had demanded their release. Descending the river to the territories ceded by the Burman government to the English, they commenced missionary operations at Amherst,

a new town designed to be the British capital. Scarcely, however, were they fixed in this abode, when urgent overtures were made to Dr. Judson to accompany an embassy to Ava, to negotiate a new treaty. In the hope that an article providing for religious toleration might be incorporated, he yielded to the wishes of the commissioner, and parted with Mrs. Judson on July 5, never to see her more on earth. Her constitution, broken by the intense sufferings and cares of the long imprisonment, yielded to an attack of fever, and she died after 18 days' illness. Returning to Amherst, Dr. Judson applied himself with diligence to missionary labors. The number of native converts was increased, many new missionaries arrived, and new branches of the mission were established, that among the Karens starting at once into importance as among the most successful of modern times. Dr. Judson was chiefly employed in the translation and revision of the Sacred Scriptures, and in the preparation of a Burman-English dictionary. His philological tastes and habits qualified him peculiarly for labors of this character. His knowledge of the Burman language and literature equalled that of the most learned men of the empire; and he used the language with elegance and facility. In Jan. 1834, he completed the translation of the Bible. In April of the same year he married Mrs. Sarah H. Boardman, widow of a missionary, the Rev. George Dana Boardman. For 11 years he continued his missionary labors, to a large degree biblical and philological, till 1845, when the failing health of his wife compelled a voyage to the United States. Mrs. Judson died in the harbor of St. Helena, Sept. 1, and was buried on that island. Dr. Judson arrived at Boston, Oct. 15. The emotion excited by his return spread over the whole country, and was shared by every denomination of Christians. He was received with distinguished marks of respect and veneration by public meetings in many chief cities and towns of the United States, and especially by his Baptist brethren assembled in their missionary conventions at New York and Richmond. On July 11, 1846, he reëmbarked for Burmah, having married Miss Emily Chubbuck, a lady well known among American female writers under the name of "Fanny Forester." Arriving at Maulmain in December, he resumed his work with ardor. Under the better auspices occasioned by a political revolution, he established himself for a while at Rangoon, and even projected new attempts at Ava, which a want of means compelled him to abandon. Returning to Maulmain, he assumed the pastorate of the Burman church, and carried forward the dictionary on which he had been so long engaged. In the autumn of 1849 a severe cold, followed by a fever, withdrew him from his work. His disease refused to yield to remedies, and on April 8, 1850, despairing of recovery at Maulmain, he left his wife in a state of health which forbade her accompanying him, and departed with a single attendant for the isle of Bourbon.

He suffered much while descending the river, but rallied for a time on the open sea. On April 12 he sank quietly to rest, and was buried in the ocean.—Dr. Judson was of medium stature, of light and agile form, his features clearly defined and expressive of character, his eyes dark and piercing, his bearing self-possessed but unassuming, and his whole appearance indicative of an uncommon personage. His mental endowments were of a high order, and his early habits of accurate scholarship were maintained amid the disadvantages of missionary labor. That distance and imperiousness of manner which had marked his youth, softened by his piety, became a dignified Christian reserve. Beneath it was a heart full of all gentle affections. His religious consecration was radical and unreserved. He was thoroughly a Christian man. He became a missionary with no romantic hopes. He expected no more than to aid in laying the foundation of the Christian church in Burmah; if he could see 100 converts from Gaudama brought into the Christian fold, and the Bible translated into the Burman language, this would be his adequate reward. He lived to see the Burman mission, including its Karen branches, embracing many thousands of converts, with Bibles, schools, and the ripening elements of a Christian civilization.—A memoir of his life was written by the Rev. Francis Wayland, D.D. (2 vols. 12mo., Boston, 1853). See also a memoir by J. Clement (12mo., Auburn, N. Y., 1852); "Records of his Life, Character, and Achievements," by the Rev. D. T. Middleditch (12mo., New York, 1854); and "The Earnest Man: a Sketch of the Character and Labors of the Rev. Adoniram Judson," by Mrs. H. C. Conant (8vo., Boston, 1856).

JUDSON, ANN HASSELTINE, 1st wife of the preceding, daughter of John and Rebecca Hasseltine, born in Bradford, Mass., Dec. 22, 1789, died in Amherst, Burmah, Oct. 24, 1826. She early developed very remarkable qualities both of intellect and character. Her mind was strong, active, and clear; her spirits buoyant, her attachments ardent, and her fertility of resources for the accomplishment of her purposes unfailing. She was educated at the academy of her native town. Her mind was well disciplined, and her acquisitions were unusually large. Mr. Judson's acquaintance with her commenced in 1810, and resulted soon after in an offer of marriage on his part, and an invitation to share with him the responsibilities and perils of missionary life. They were married at Bradford, Feb. 5, 1812, and on Feb. 19 embarked for Calcutta. Her subsequent history will be found in connection with that of her husband. Her devout and earnest piety, her labors as a missionary, and her heroism and achievements as an angel of mercy to prisoners during the Burman war, have crowned her name with the highest honors. A memoir of her life was written by the Rev. James D. Knowles (2d ed., Boston, 1829; many times reprinted).—SARAH HALL (BOARDMAN), 2d wife of the

Rev. Adoniram Judson, born in Alstead, N. H., Nov. 4, 1808, died at the island of St. Helena, Sept. 1, 1845. She was the eldest child of Ralph and Abiah Hall. While she was a child her parents removed, first to Danvers, Mass., and then to Salem. In her 17th year she was baptized by the Rev. Dr. Bolles, of the 1st Baptist church, Salem. On July 4, 1825, she became the wife of the Rev. George Dana Boardman, and on July 16 they embarked for Calcutta, arriving there Dec. 15. The Burman war still raging, Mr. Boardman accepted temporarily an invitation to preach at the Circular Road Baptist church in that city. Here they remained till the spring of 1827, when they embarked for Burmah, where arrangements were made for the establishment by Mr. Boardman of the mission station at Maulmain, which subsequently became the chief seat of Baptist missions in that country. Here Mrs. Boardman made rapid progress in the acquisition of the language, and availed herself of every opportunity and method in her benevolent work. This mission being fairly established, Mr. and Mrs. Boardman were transferred to Tavoy for a similar service, where was commenced that remarkable work of the propagation of the gospel among the Karens, the inhabitants of the interior jungles. Missionary service among them was performed in part by receiving them into schools at Tavoy, and in part by visiting their villages in the wilderness. In two years Mr. Boardman died. His widow continued her missionary labors, and beside managing a school with great success, and giving religious instruction in various ways at Tavoy, she was accustomed to make long and toilsome journeys among the mountains. In these excursions, assemblies of hundreds gathered around her, and notwithstanding her reluctance to assume what seemed like the office of a public teacher, she was obliged to conduct their worship, and instruct them more perfectly in the Christian faith. In April, 1834, she became the wife of Dr. Judson. Her subsequent life was less eventful, but it was filled with steady, quiet usefulness. She was perfectly familiar with the Burman language, and skilful in the use of it. She translated into it the first part of Bunyan's "Pilgrim's Progress," and various tracts, prepared a hymn book, several volumes of Scripture questions for Sunday schools, and, as one of the last works of her life, a series of Sunday cards. Before the Peguans had a missionary, she acquired their language, and translated or superintended the translation of the New Testament and the principal Burman tracts into the Peguan tongue. In these useful labors she continued until 1845, when her shattered health compelled her to attempt a voyage to America in the hope of its restoration. Embarking with her husband, they were cheered for a time with prospects of her improvement, but a change supervening, she gradually declined, and died in the harbor of St. Helena. A memoir of her life was written by Mrs. Emily O. Judson (18mo., New York, 1850).—EMILY CHUBBUCK, 8d wife of the

Rev. Adoniram Judson, born in Eaton, Madison co., N. Y., Aug. 22, 1817, died June 1, 1854. Though her opportunities of early culture were extremely limited, she made much progress in learning. At the age of 14 she took charge of a district school, and continued teaching, with very brief intervals, until the age of 28, contributing in the mean time a number of pieces in prose and poetry to the village newspapers. In 1840 she entered the Utica female seminary as a pupil, but was soon transferred to the office of teacher. She began her career of formal authorship by writing several Sabbath school books ("Charles Linn," "Allen Lucas" &c.), which, however, yielded little pecuniary remuneration. Charged with the support of her aged parents, she turned to other sources, and in 1844 addressed a playful letter, under the assumed name of Fanny Forester, to Messrs. Morris and Willis, editors of the New York "Evening Mirror," delicately proposing contributions to their journal. Mr. Willis encouraged her, and she soon became a regular contributor to the "Columbian" and "Graham's" magazines. A brilliant literary career was opening before her, when a new direction was given to her destiny by her marriage with the Rev. Dr. Judson, in June, 1846, and their departure for India in July following. Mrs. Judson continued in Burmah until Jan. 1851, when, upon the death of her husband, she returned to America. While in Rangoon she wrote the memoir of Mrs. Sarah B. Judson, and in Maulmain composed some of her best poems connected with her personal history. She returned with a broken constitution, but devoted herself to the care of her children and of her aged parents, and to her literary labors. She prepared and arranged the papers for Dr. Wayland's life of Dr. Judson, and collected her poems, which were published under the title of the "Olio." Her other works are: "The Kathayan Slave," a collection of missionary writings in prose and verse, and "My Two Sisters." Her magazine tales and sketches had been collected and published before she left America, under the title of "Alderbrook."

JUGGERNAUT, or JUGGERNAUTH, a town and temple in British India, in the district of Cuttack and presidency of Bengal. The town lies on the N. W. shore of the bay of Bengal, on the coast of Orissa. The ground on which it stands is esteemed holy, and is held free of rent on condition of performing certain services in and about the temple. The principal street is composed chiefly of religious establishments called *maths*, which consist of stone buildings with low-pillared verandas in front and shaded by trees. At the end of this street, which is very wide, rises the celebrated temple. In the vicinity of the town are luxuriant groves and gardens, and many fine tanks of great antiquity. Between the S. W. side of the town and the sea are numerous ancient edifices nearly buried in the drifting sand. The town is 250 m. S. W. from Calcutta, and contains a population of 30,000.—The temple of Juggernaut stands

within a square enclosure, surrounded by a lofty stone wall, each side of which measures 650 feet, making an area of about 10 acres. On the E. side is a grand gateway from which a broad flight of steps leads to a terrace 20 feet high, enclosed by a second wall, each side of which measures 445 feet. From this terrace the great pagoda rises, from a base of 80 feet square, to the height of 200 feet above the ground. It tapers from bottom to top, and is rounded off in the upper part. Most of the Hindoo deities have temples within the enclosure. The great temple is dedicated to Krishna, considered as an avatar or incarnation of Vishnu, and derives its name from his title Juggernaut (properly Jagatnatha, "the lord of the world"). Siva and Subhadra are the next principal objects of adoration, and these three deities are respectively represented by three frightful-looking idols made of blocks of wood about 6 feet high, each surmounted by a grim representation of the human countenance. The block representing Krishna is painted dark blue, while Siva's image is white, and Subhadra's yellow. Each idol is provided with a chariot, which is a lofty platform mounted on wheels. That of Juggernaut or Krishna is the largest, 43½ feet high, 34½ feet square, and is mounted on 16 wheels, each 6½ feet in diameter. The *Rath Jatra*, or great festival of Juggernaut, occurs in March when the moon is of a certain age, and the idols are then taken on their chariots to visit their country house, about 1½ m. from the temple. The chariots are drawn by long ropes held by enthusiastic thousands of men, women, and children, while priests standing on the platforms sing and repeat obscene stories, accompanied by corresponding gestures, amid the applause of the multitude. In former years some of the votaries were occasionally sacrificed by falling accidentally or by design before the chariot wheels, and being crushed to death by the ponderous rolling vehicle; but latterly there have been no occurrences of this sort. The temple of Juggernaut is of considerable antiquity. The present building is supposed to have been completed in 1198 at a cost of more than \$2,000,000. The British obtained possession of the place in 1808. Its former masters, the Mahrattas, had levied a tax upon the pilgrims resorting thither, and out of the large sum thus raised granted a small allowance to defray the expenses of the temple. The British continued this tax and the provision for the maintenance of the temple until 1839, when the tax was abolished and an annual donation from the public treasury given to the priests. In consequence of the scandal created by the spectacle of a Christian government contributing to support the most obscene rites of heathen worship, this donation has recently been withheld, and the temple now depends on a pilgrim tax collected by the native authorities.

JUGGLER, one who practises or exhibits tricks by sleight of hand, or who makes sport by tricks of extraordinary and deceptive dexterity

The further we go back in history the more do we find the juggler assuming the character of the thaumaturgist or worker of serious marvels; and in the 16th century men were burned alive in Spain and Italy for performances which now excite but little wonder. But in the earliest times, when knowledge and science were devoted to strengthening heathen religion, juggling was a real power, and formed the most efficient means of sustaining the dignity of the priesthood. The talent of so wise a body of men as the hierarchy of India and Egypt carried thaumaturgy to an incredible extent, and it is by no means impossible that a great proportion of the marvels ascribed by legend to magicians were actually or apparently performed. The investigations of Salverte have shown in what manner most of these could have been done, and with what effect, especially in the depths of temples, before witnesses filled with awe and devoid of doubt. Thus Iamblichus (*De Mysteriis*, cap. 29) and Porphyry speak of those who showed the apparitions of gods in the air; a trick explained by Robertson ("Memoirs," vol. i. p. 354) to be of easy performance. The wonder-worker Maximus probably used a similar secret when, on burning incense before a statue of Hecate, the goddess was seen to laugh so plainly as to fill all present with horror. Ordinary jugglers at the present day show the face of another person to those looking in a mirror, a trick also used by fortune tellers to exhibit future husbands to superstitious girls. This, which is done by a very simple optical contrivance sold in many shops, perfectly explains the manner in which the Agrippas and Faustus of the middle ages, as well as the earlier magicians, showed those who were supposed to be absent, or the forms of the departed, as Cleonice appeared to Pausanias. Juggling, properly regarded, is a science, the principal of whose divisions is that of sleight of hand or substitution. The commonest tricks performed by these means have been known to all cultivated races. The tosser of knives and balls, the marvellous balancer, the producer of unexpected objects from strange receptacles, occur in Saxon MSS. and on the walls of Egyptian and Etruscan tombs; they amazed the Norseman and the Roman; and when the troubadour degenerated to a vagabond, he became a *jongleur* (Lat. *joculator*), whence the word juggler. The tying and untying of intricate knots, which has even in these days been attributed to supernatural agency, yet which is shown by every juggler, leads us back to the Scottish warlock whom no bonds could hold, and to the symbolic mazes of Runic and Gordian ties. Within a few years London was amazed at a man who could tell one person in secret what card it was that another thought of. Lord Bacon (*Sylva Sylvarum*, cent. ix. 946) tells of one that "did first whisper the Man in the Eare, that such a Man should think such a Card." Those who have seen glasses or chains broken, and handkerchiefs apparently torn to pieces, and then restored to the owners,

may be amused to know that a learned writer of the 16th century, Fromann (*Tractatus de Fascinatione*, p. 583), really believed that this was done by magic, though he tells us in the same book that in his time many common jugglers (*canculatores aut saccularii*) were often mistaken for magicians. Modern wizards simply amuse by showing us eggs or other objects which dance and follow the motion of the hand, an invisible silk thread or hair being the medium used; but of old the king of Babylon stood at the parting of the ways and used divination with arrows which leaped up and pointed the way he was to go, as they did in after times for the Arabs (Koran, v. 99); and for the Tartar Genghis Khan the same trick was used. Reginald Scot, in his "Discoverie of Witchcraft," explains how the head of a man may come through a table, upon a plate, and being duly whitened like a corpse may astonish the world by talking—an account which throws much light on the talking heads of Arabic, Greek, Hebrew, Norse, and mediæval fable. Fifty years ago ventriloquism was regarded as a physiological mystery, and of old it seemed awful when the river Nessus saluted Pythagoras, when a tree spoke before Apollonius, and when a new-born infant, or animals, or statues talked. Every modern juggler allows himself to be shot at; the first European, Laing, who went among the Soulimas, near the source of the Joliba, saw a native chief perform the same trick on a grand scale and in a curious manner, the muskets always flashing in the pan when aimed at him, but shooting well when turned, however unexpectedly, to other objects. In all ages, and especially in the East, wizards have stuck arrows and swords through their own limbs, and driven nails through their hands; but when in 1859 a so-called "India rubber man" attempted to astonish by similar feats, his secret was quickly exposed in the newspapers. Ancient jugglers performed extraordinary feats by mechanism, which is defined by Cassiodorus (*Variarum*, lib. i. c. 45) as "the science of constructing machines whose effects shall seem to reverse the order of nature." In those days the floors of temples heaved like waves, doors widened of themselves to admit portly visitors, tripods advanced to salute them, statues wept, nodded, and bled; all which marvels are imitated by modern jugglers. In the 17th century, by acoustics, invisible sprites called *tramarres* rapped audibly on any object indicated; in the 19th Haller and Blitz summon them again. The abbé Mical and Maelzel in modern times astonished the world with *androides*, little speaking figures; the Egyptian priests made gods and statues which prophesied and explained dreams. Stone statues of the gods which rang like a bell when struck (Pausanias, "Attica," cap. 42) are still found in China as the jade stone images of Buddha. In optics, the Chinese jugglers show a clear metallic mirror which, when it reflects sunshine on a wall, exhibits in the circle of light an inscription; a secret accidentally discovered a

few years ago in Paris by seeing a letter stamped in the back of a daguerreotype plate reflected in like manner, though not visible on the reflecting surface. The magic lantern fully explains the images of the gods shown in the water by ancient wizards, and the devils seen by Benvenuto Cellini in the Colosseum. In hydrostatics, the bottle yielding all kinds of wine, which has often appeared in romance, as on the table of Faust, has been realized by many wizards of the present day. Many tricks of modern eastern jugglers have however never been fairly explained. Their placing a boy in a basket on the ground and stabling through it, causing blood to flow and the boy to vanish and reappear, is one of these; so too is their curious trick of making trees grow visibly in a few minutes. Something like this was shown by a Neapolitan, who professed to make lettuce seed sprout by electricity, and who thereby long puzzled the scientific world. In modern Egypt (Lane, "Manners and Customs of the Modern Egyptians," vol. ii., c. vii.) a naked juggler is tied up in an empty bag, and comes out bringing with him plates of food and lighted candles. The Indian jugglers are also exceedingly skilful.—Common jugglers are said to have originated in Egypt, and made their appearance in Greece; in Rome they were termed *prestigiatores, pilarii* (ball players), and *saccularii*, "those who tricked with bags and into pockets." The real Faust of the middle ages was a common juggler, and much below the dignity of black-art scholars like Agrippa and Paracelsus. Of his class was the Bohemian Zito. The most remarkable jugglers of modern times have been Pinetti, Eckhartshausen, Philadelphia, and the famed Katterfelto. More recently we have had Bartolommeo, Bosco of Turin, Döbler, Prof. Anderson, Heller, Houdin, Hermann, and in America Blitz. Most eminent of these is the Frenchman Robert Houdin, who applied to his art not only true genius but the resources of science. His memoirs were published in Paris in 1859. For other works on the subject, see Reginald Scot, "Discoverie of Witchcraft" (1584); Wiegleb, *Natürliche Chemie* (26 vols., Berlin, 1779-1805); J. S. Halle, *Magie* (17 vols., Berlin, 1783); Funk's *Natürliche Magie* (Berlin, 1816); K. O. Eckhartshausen, *Ueber die Zauberkräfte der Natur* (Munich, 1819); Sir David Brewster, "Lectures on Natural Magic" (London, 1832-'5); Eusèbe Salverte, *Des sciences occultes* (Paris, 1848).

JUGURTHA, a Numidian king, born in the 1st half of the 2d century B. C., died in Rome in 104 B. C. He was the illegitimate son of Mastanabal, youngest son of Masinissa, king of Numidia. Micipsa, his paternal uncle, on succeeding to the throne, adopted him, and had him brought up with his own sons, Hiempsal and Adherbal. Jugurtha soon distinguished himself so much by his superior abilities, and skill in all martial exercises, as to excite the jealousy of Micipsa, who, to remove him out of the way, sent him in B. C. 134 with an auxiliary force to aid Scipio in the Numantine war. Jugurtha's courage and

capacity won him the friendship of the Roman commander and officers, many of whom are said to have secretly stimulated him to aspire to the sole sovereignty of Numidia on the demise of his uncle. On the conclusion of the war he returned to Numidia, and was received with ceremonious respect by Micipsa, who, to purchase his forbearance, made him at his death heir to the kingdom in common with his two sons. But the three princes quarrelled on their first meeting after his death, and a little later Hiempsal was assassinated by Jugurtha. Adherbal and his party took up arms, but were defeated, when he fled for refuge to Rome, and submitted his case to the senate, who, despite the intrigues and bribes of Jugurtha, sent commissioners to Africa to divide Numidia between the rivals. The commissioners took gifts from Jugurtha, and gave him the larger and better half of the kingdom. He was not however satisfied. After trying in vain to provoke Adherbal to declare war, he threw off the mask, invaded that prince's territory, and compelled him to take refuge in Cirta, where, on the surrender of that city in 112 B. C., himself and all his followers were massacred. The conduct of Jugurtha now excited loud indignation at Rome, and an army was despatched to Africa to depose him. But the Roman commander and legate suffered Jugurtha to purchase peace on terms which involved no greater sacrifice, on his part, than 80 elephants and an inconsiderable sum of money. This shameful transaction so weakened the confidence of the Roman people in the patricians, that the praetor Cassius was sent to Numidia to guaranty to Jugurtha a safe-conduct if he would go to Rome and give evidence against the generals. The king consented, proceeded to the imperial city, and appeared in the *comitia*; but a tribune in the interest of the generals forbade him to testify, and the attempt to convict the corrupt officers proved a failure. Jugurtha remained at Rome for some time, intriguing and adding to his influence among the aristocracy. Having however procured the assassination of Massiva, a Numidian prince, who since the death of Adherbal had been a competitor for that kingdom, he was ordered to quit Italy. It was while leaving Rome, on this occasion, that he uttered the memorable exclamation, which indicates how the Romans had fallen from their ancient integrity: "Behold a city for sale, could she but find a purchaser." The war was now renewed against Jugurtha, and Spurius Albinus was appointed to conduct it, during whose command a division of the army was surprised by Jugurtha in its camp, the greater part cut to pieces, and the survivors compelled to pass under the yoke. This disgrace stirred up the Roman spirit, a new army was raised, and Q. Cæcilius Metellus was sent to succeed Albinus. Metellus was at once an able general and an honest man. After the first campaign Jugurtha was willing to purchase peace on any conditions short of surrendering himself a prisoner of war. Metellus, however, was ambitious not only of

terminating the war, but of adorning his triumph with the vanquished, and the contest was renewed. Nothing memorable was achieved during the remainder of Metellus's term. The Numidian, avoiding a general engagement, resorted to guerilla tactics; while the Roman, on hearing that the plebeian Marius was to supersede him in the command, discontinued offensive operations, determined that no act of his should tend to lessen the difficulties which lay in the way of his successor. Marius arrived in Africa in 107 B. C., speedily reduced almost all the strongholds that had been in the possession of the king at the time of his arrival, and gradually subjected his territory to the dominion of Rome. Jugurtha, seeing his kingdom slipping from his grasp, made one final effort to retrieve his fortunes. Having formed an alliance with Bocchus, king of Mauritania, the two monarchs with their united forces attacked the army of Marius on its march, but after a desperate contest they were totally defeated. The Mauritanian king now deserted his ally, and enticed him into an ambuscade, where he was made prisoner, and delivered in chains to Sylla, the quaestor of Marius. He was afterward taken to Rome, and, after adorning the triumph of his conqueror (Jan. 1, 104), was cast into prison, where he died of starvation at the end of 6 days. The details of the life of Jugurtha are chiefly known from the interesting history of the "Jugurthine War" by Sallust.

JULIAN (FLAVIUS CLAUDIUS JULIANUS), surnamed the Apostate, a Roman emperor (A. D. 361-363), born in Constantinople, Nov. 17, 331, died in Persia, June 26, 363. He was the son of Julius Constantius, the grandson of Constantius Chlorus, and the nephew of Constantine the Great. When the tyrant Constantius II. ordered the male descendants of Chlorus by his second wife Theodora to be put to death, he made an exception in favor of Julian and his half brother Gallus, whose tender years did not excite his apprehension. But, though he spared their lives, he banished them to certain cities of Ionia and Bithynia, and ultimately confined them in the strong castle of Macellum near the Cappadocian Cæsarea. During the period of their restraint Julian was not only instructed in the doctrines of the Christian faith, but taught to fast, to pray, and to fill the office of reader in the church of Nicomedia. In 351 Gallus was taken from prison, invested with the dignity of Cæsar, and made prefect of the East. Through his mediation Julian was liberated, and permitted to fix his residence in any of the Asiatic cities. He now first became acquainted with those Platonic philosophers who ere long induced him to abandon Christianity for paganism. He was not however ambitious of persecution, and did not make a public avowal of his apostasy till he could do so with perfect safety. After the murder of Gallus, he again became an object of distrust to Constantius, who had him transported to Italy, and imprisoned at Milan, whence having been liber-

ated by the intercession of the empress Eusebia, he retired to Athens. Constantius soon recalled him, and on Nov. 6, 355, proclaimed him Cæsar, and gave him his sister Helena in marriage. He was at the same time invested with the government of all the transalpine provinces, and with the command of the forces which were to drive the German invaders of Gaul beyond the Rhine. Having with equal skill and energy effected this latter undertaking, and checked the rapacity of the local governors, he acquired such popularity that when the jealous Constantius in 360 commanded him to send his best soldiers to the Persian war, the troops proclaimed him emperor. Julian crossed over into Germany and made an admirable march along the forest-covered valley of the Danube with the intention of advancing against Constantinople; but the sudden death of Constantius in Cilicia gave him undisputed possession of the empire. On Dec. 11, 361, he made his triumphal entry into the capital, amid the acclamations of the soldiers, the citizens, and the senate. He now openly avowed his abandonment of Christianity, which had long before been known to his friends, and his Christian subjects apprehended a cruel and relentless persecution. Shortly after his accession, however, he published an edict which granted perfect toleration to all sects and religions. But the spirit of this edict was not respected even by Julian himself. He excluded Christians from civil and military offices, forbade them to teach grammar and rhetoric in the schools, compelled them to contribute to the building and repair of pagan temples, permitting at the same time the Jews to rebuild their temple at Jerusalem, and wrote a voluminous treatise against the assumed errors of Christianity. Amid the licentious priests and lascivious dancers who thronged the pagan temple, he was frequently seen bearing the wood, kindling the fire, slaughtering the victim, and divining from the entrails of the expiring animal. He was nevertheless worthy in other respects to wield the sceptre. Immediately after his accession he applied himself to reform the luxury and extravagance of the imperial court. He ordered the laws to be equitably administered, and instituted a tribunal for the trial of such officials as had been guilty of peculation or oppression in the former reign. The incursions of the Persians upon Roman territory led him to declare war against that people, and in 363, having crossed the Euphrates at Hierapolis, he advanced with the main body of his army against the royal city of Ctesiphon. Under the walls of this place he gained a brilliant victory over a division of the enemy; but having been induced by the representations of a Persian noble, who affected to be a fugitive, to postpone the siege of Ctesiphon, and to march into the desert in search of Sapor, the Persian monarch, he was surprised by the enemy, and in the battle which ensued received a wound from an arrow which proved mortal in the evening of the same day. Jovian was proclaimed his successor on the

battle field. In his manner of life Julian emulated the temperance and simplicity of the primitive Romans; he was indefatigable in the discharge of his public duties, and in his intervals of leisure was devoted to study and philosophy. He possessed rhetorical and literary talents of a high order, and wrote much and well on various subjects. The ablest if not the most important of his extant works are: the "Cæsars," or the "Banquet," a satirical composition in which the different Roman emperors are made to appear at a celestial banquet where old Silenus censures their vices and crimes; and the "Misopogon," or the "Beard-Hater," in which the emperor exposes the licentiousness and effeminacy of the citizens of Antioch, who had ridiculed the beard of their sovereign, such appendages not being fashionable in that city. His treatise against the Christians has been lost, with the exception of those extracts preserved in the refutation of it by Cyril of Alexandria. The best collective edition of the works of Julian is that of Spanheim (Leipsic, 1696). The most celebrated modern lives of Julian are by Gibbon in his "Decline and Fall of the Roman Empire;" by the abbé de la Bletterie, *Histoire de l'empereur Julien l'apostat* (Paris, 1785); and by Neander, *Ueber den Kaiser Julianus und sein Zeitalter* (Leipsic, 1812).

JÜLICH, a circle of the Prussian province of Aix la Chapelle (pop. 50,000), with a capital of the same name (pop. 4,000), situated on the river Roer, 26 m. from Cologne. The town is the Juliacum mentioned in the "Itinerary" of Antoninus. One of the imperial counts of Jülich, Girard I., assisted Henry the Fowler in his warfare against the Hungarians, and the county of Jülich was raised to the rank of a duchy in favor of Girard's descendants by the emperor Charles IV. (1356). For a long time afterward Jülich was one of the independent duchies on the Rhine, until the beginning of the 17th century, when the line of hereditary dukes became extinct. At the congress of Vienna in 1814 the duchy was allotted to Prussia, with the exception of a few localities annexed to the Dutch province of Limburg. The razing of the fortress of Jülich was begun in 1860.

JULIEN, STANISLAS AIGNAN, a French orientalist and sinologue, born in Orleans, Sept. 20, 1799. He was the son of a noted mechanician. After completing his classical studies in his native town, he repaired to Paris, and, while making himself acquainted with several living European languages, perfected his knowledge of the ancient Greek by attending the lectures of Gail at the college of France. He was on the point of emigrating to Camden, S. O., where one of his elder brothers was established as a manufacturer of fire-arms, when news of his brother's death arrived and detained him in France. Gail appointed him his substitute in 1821; and to vindicate his claims to this distinction, he published in 1823 a critical edition of the poem of Coluthus, *Ἑλένης Ἀρπάζη*, with translations in Latin, French, Italian, Spanish, English, and

German. In 1824, under the title of *La lyre patriotique de la Grèce*, he produced a French translation of the lyrical poems of the modern Greek poet Kalvos of Zante. A young Scotchman inspired him with a taste for the Chinese language, and introduced him to Sir William Drummond, who supplied him with the means of studying that language. He also attended the lectures of Abel Rémusat, and mastered the Chinese with such uncommon rapidity that within a year he was enabled to translate into Latin the writings of Mencius (Meng-tseu). This work was published at the expense of the Asiatic society of Paris. Since then he has accomplished much toward making Chinese literature known in Europe. Among his numerous translations are two dramas: *Hooi-lan-ki, ou l'histoire du cercle de craie* (8vo., London, 1832); and *Tchao-chi-kou-sui, ou l'orphelin de la Chine* (Paris, 1834); a novel, *Pé-che-ting-ki, Blanche et Bleue, ou les deux couleurs-fées* (Paris, 1834), and several other tales which appeared in the 5th volume of the *Salmigondis*, or in the *Constitutionnel*; two philosophical works of great fame, *Kan-ing-pien, le livre des récompenses et des peines* (London, 1835), and *Lao-tseu Tao-king, le livre de la voie et de la vertu* (Paris, 1841); two interesting treatises, *Résumé des principaux traités Chinois sur la culture des mûriers et l'éducation des vers à soie* (1837), and *Histoire et fabrication de la porcelaine Chinoise* (1856). His most important work appeared under the general title of *Voyages des pèlerins Bouddhistes*, three volumes of which have been already published (1853-'7-'8), containing *Histoire de la vie de Hiouen-tsang et de ses voyages dans l'Inde*, and *Mémoires sur les contrées occidentales*. This work throws much light on the early history and geography of India; a portion of the publishing expenses was defrayed by the English East India company. He has beside in MS. or in preparation several other works, among which is a complete Chinese dictionary. In 1832 M. Julien succeeded Abel Rémusat as professor of the Chinese language and literature; he was elected in 1833 to the academy of inscriptions, intrusted in 1845 with the keeping of the Chinese department in the royal (now imperial) library, and promoted in 1855 to the rank of administrator of the college of France; he is an associate of nearly all the learned societies of Europe, corresponds with several mandarins, and is said to enjoy a high reputation in the literary world of China.

JULIUS, the name of 8 popes. I. **SAINT**, born in Rome, died there, April 12, 852. He was chosen pope, Feb. 6, 837. He sustained Athanasius in his contest with the Arians and summoned a council in 842 to take action in the matter. Another council was held at Sardica in 844, at which it is asserted that the right of arbitration in cases of deposition of bishops was reserved to the see of Rome. Two letters of Julius are given in the *Epistola Romanorum Pontificum*. II. **GIULIO DELLA ROVERE**, born in Albisola in 1441, died Feb. 21, 1518. He was

bishop successively of Carpentras, Albano, Ostia, Bologna, Avignon, and Mende, and was made cardinal by his uncle Sixtus IV., who also gave him command of the papal troops sent against the revolted Umbrians. His success in this war so increased his popularity, that Alexander VI. on assuming the tiara banished him from Rome. Julius returned to the camp, and contributed an important part in the conquest of Naples by Charles VIII., the rising of the Genoese, and the expulsion of Luigi Sforza. On the death of Alexander, Aug. 18, 1503, he caused the election of the aged Pius III., who survived his elevation only 26 days, and Julius himself was then chosen on the first ballot. His first care on coming to the throne was to drive out Caesar Borgia from the Papal States, his next to strengthen and extend the power of the holy see. The refractory nobility at home were soon reduced to obedience, but the Venetians, who held Ravenna, Rimini, and other territories of the church, were a more formidable enemy. After fruitless negotiations, Julius joined in 1509 the famous league of Cambrai, formed by the emperor Maximilian, Louis XII. of France, and Ferdinand of Aragon, for the dismemberment of the Venetian republic. The troops of the league were everywhere successful; the doge sued for peace, and the pope, who had now got what he wanted, grew jealous of Louis, and willingly united with the Venetians to expel the French from Italy. Ferdinand was also led to view the success of Louis with uneasiness, and became a party to the "holy league," which was signed Oct. 4, 1511, and whereof Henry VIII. of England afterward became a member. Julius took the field in person, and, after several campaigns of varying success, drove out the "barbarians," as he termed his former allies. He could not so easily rid himself of the Swiss, German, and Spanish troops by whom he had effected this result, and in the midst of the disorder raised by his warlike and ambitious policy, he died without achieving for the holy see that preëminence which had been the whole aim of his pontificate. Julius was in heart and action a thorough soldier. He "made his tiara a helmet and his crosier a sword," and his disposition is well expressed in an old epigram:

Cum Petri nihil efficiant ad prelia claves,
Auxilio Pauli forsitan ensis erit.

He was nevertheless regarded by the Italians as a friend to the liberation of their country, and the justice and wisdom of his internal administration gained him their affection. He laid the corner stone of St. Peter's church, and was a patron of Michel Angelo, Bramante, and Raphael. It was Julius II. who granted Henry VIII. a dispensation to marry Catharine of Aragon. He was succeeded by Leo X. III. **GIAN MARIA DEL MONTE**, born in Arezzo, Sept. 10, 1487, died March 28, 1555. He belonged to a noble family, held several high offices under the papal government, was made cardinal in 1536, and succeeded Paul III. in 1550. He reopened the sittings of the council of Trent,

which had been discontinued under his predecessor, and confirmed the institution of the Jesuits. He took part with Charles V. in his quarrel with Ottavio Farnese and the French, but was compelled to sign a truce with his enemies in April, 1552, soon after which he declared the suspension of the council of Trent, which had already been broken up by the Protestants, and retired to his luxurious villa near Rome. He reconciled England with the holy see under the reign of Queen Mary. He was succeeded by Marcellus II.

JULIUS, NIKOLAUS HEINRICH, a German physician, born in Altona, Oct. 3, 1788. With a view of examining the condition and management of prisons, he explored many parts of Europe and the United States, delivered lectures, and published a variety of works on this and kindred subjects, as *Die Amerikanischen Verbesserungssysteme* (Leipsic, 1837); *Nordamerika sittliche Zustände* (1839); *Beiträge zur britischen Irrenheilkunde* (1844), &c. He has also edited the *Jahrbuch der Straf- und Besserungs-Anstalten* (Berlin, 1829-'48), and in concert with Gerson the *Magazin der ausländischen Literatur der gesammten Heilkunde* (Hamburg, 1821-'35). In 1849 he returned to Hamburg, where he had previously practised his profession. His German translation of Ticknor's "History of Spanish Literature" appeared in 1852.

JULLIEN, LOUIS GEORGE, a French composer and director of music, born in Sisteron, Basses-Alpes, April 23, 1812, died in Paris, April 16, 1860. From his father, who had been band master of the Swiss guards in the service of Louis XVI., he inherited a talent for music, and at 6 years of age was a skilful performer on the violin. Subsequently he served in the French army and navy, and about 1830 gained admittance as a pupil into the *conservatoire* at Paris, where he was instructed by Cherubini. Upon leaving this institution he became director of the concerts in the Champs Elysées. In 1839 he went to England, and for a number of years directed promenade concerts in London with great success. In 1847 he attempted to establish the English opera in a style of splendor equalling that bestowed upon the Italian; but upon the failure of the enterprise, he resumed his concerts, which were among the most popular ever given in England. In 1853 he produced at Covent Garden theatre an opera entitled *Pietro il Grande*, which met with considerable success, and in the same year, accompanied by a large orchestra, he visited the United States, in the chief cities of which he gave concerts for several months. His subsequent career was less prosperous, and he died in a charitable institution. He composed and arranged innumerable short pieces, and was the means of rendering popular some of the best compositions of the oldest masters, and of bringing before the public a number of prominent singers and instrumental performers.

JULY, the 7th month in our calendar, having 31 days, named in honor of Julius Cæsar. It was at first called by the Romans Quintilis,

(*quintus*, fifth), being the fifth month in the ancient Roman year, which began with March. The name was changed by proposal of Antony, because Julius Cæsar was born on the 12th of this month. Charlemagne gave it the name of *Heumonat* (mowing month).

JUMNA, a river of Hindostan, and the principal tributary of the Ganges. It rises in the protected hill state of Gurwhal, near the S. base of the Himalaya, in lat. 31° N., long. 78° 30' E. Its source is at the foot of a group of hills called the Jumnotri peaks, near which it receives the overflow of several hot springs. It is here a violent torrent, having for 16 m. an average descent of 314 feet per mile. After a S. W. course of about 60 m., during which it is joined by several large mountain streams, it turns to the W., and in lat. 30° 30', long. 77° 53', receives the Tonse. About 97 m. from its source it enters the plain of Hindostan, flowing S., and divides into several branches. It here becomes navigable by rafts. After passing the city of Delhi, where it throws off a branch, and is crossed by a bridge of boats, its general course is S. E. It joins the Ganges at Allahabad, 619 m. below Delhi, and 860 m. from its source. The two rivers are here about equal in volume, and both are regarded as sacred by the Hindoos. In the lower part of its course the Jumna is sometimes 2 or 8 m. wide. Its banks are rocky and precipitous, and its current is rapid. Navigation is attended with much difficulty, but many of the most serious obstructions have been removed, and vessels can now ascend to Calpee. Its principal affluents are the Chumbul, Baun, Sindé, Betwa, Oane, Hindon, and Seengoor. Delhi, Agra, Allahabad, Minpooree, Etawah, Muttra, and Calpee are the most important places on its banks. A canal has been projected to unite the Jumna about 80 m. above Delhi with the Sutlej at Loodiana. Three irrigating canals are also fed by it. One called the canal of Feroze Shah, built in 1356 and reopened after 85 years' disuse in 1823-'5, separates from the river on the right side near Chooarpoor, and passes by Hansi and Hissai, being 240 m. long. Another, the Delhi canal, branches off from this and rejoins the Jumna at Delhi, after a course of 70 m.; it was built by Ali Murdan Khan, a favorite officer of Shah Jehan from 1638 to 1656, and, after having been choked up for 60 years, was restored by Lord Hastings in 1817-'20. The Doab canal, on the left bank of the river, leaves the Jumna near Fyzabad and rejoins it opposite Delhi; it was repaired in 1824-'30, and is 135 m. long. The waters of the Jumna in its lower course are so strongly impregnated with natron as to be unfit for drinking.

JUNE, the 6th month in our calendar, having 30 days. The name is variously derived from *juniores* (the young men), to whom Romulus is said to have assigned it, as he assigned May to the elders; from Juno, whence it was sometimes called Junonialis; from Junius Brutus, the first consul; and from *jungo* (to join), with reference to the union of the Romans and Sabines. It

was named by Charlemagne *Brachmonat* (fallow month).

JUNG BAHADOOR COOMARANAGEE, prime minister of Nepaul, born about 1816. He is the 2d son of a general who commanded part of the rajah's army on the N. W. frontier. While serving as a subaltern under his father he manifested a daring and adventurous spirit, which, if it frequently led him into breaches of military discipline, gained to an extraordinary degree the affection of the soldiers. He visited the British possessions in upper India, and on his return, instead of being punished for absence from his post without leave, was promoted to the rank of captain. In 1839, his uncle Mahtabar Singh having been made prime minister, he went to court, where he became implicated in a conspiracy against the British, and marched with a secret expedition to Benares; but his plans being discovered, he was made prisoner and carried back to Nepaul. Released on the frontier, he divided his attention for a while between gambling and politics, for both of which he showed a remarkable aptitude. In 1845 the ranee (queen) resolved upon the destruction of Jung's uncle, the prime minister, and chose the nephew as her agent. Mahtabar Singh was treacherously shot by Jung, and the assassin received for reward the chief command of the forces with a place in the new ministry. In the course of the following year, acting in concert with the ranee, who had almost absolute control over her imbecile husband, he became premier by a *coup d'état*, shooting down 14 nobles with his own hand in the audience hall of the palace. He soon lost the favor of the ranee, and, having foiled an attempt upon his life, caused her to be banished. This was followed by the deposition of the king and the elevation of the heir apparent to the throne. Jung, however, retains the whole power of the state, and is the virtual sovereign. His administration has proved advantageous to the country, and has been marked by improvement in its laws and the development of its resources. He is feared and hated by the king and the nobles, but is a favorite with the army and the people. In 1850 he visited England in the quality of ambassador, the ostensible purpose of his mission being to negotiate respecting a disputed tract of territory on the British and Nepaulese frontiers. He landed at Southampton May 25, attended by a splendid retinue and bearing costly presents to Queen Victoria; and after a stay of a few months, during which he was the object of many attentions and intense public curiosity, he returned home, stopping a while in Paris, and arriving at Bombay in November. Soon afterward he caused his daughter to be married to the Nepaulese heir apparent. He cultivated the friendship of the English, affected English modes of life, and when the revolt broke out in 1857 offered his services in suppressing it. He took the field with 9,000 Gorkhas, assisted in the capture of Lucknow, and in the summer of 1858 returned to Catmandoo, having received from Queen Victoria

the grand cross of the order of the bath. He afterward opened a fresh campaign against the remnant of the rebels on the Nepaulese frontier, crushed and dispersed them in Dec. 1859 in a decisive battle, and thus brought the war definitely to a close.

JUNG-STILLING (JOHANN HEINRICH JUNG), a German mystic author, born in Im-Grund, Nassau, Dec. 12, 1740, died in Carlsruhe, April 2, 1817. After being successively a charcoal burner, tailor, and teacher, he began to study medicine at Strasbourg, where he became acquainted with Goethe, who in his autobiography has given a fine analysis of his naive, trustful, and affectionate character. He operated for cataract with eminent success at Elberfeld, was professor of rural economy at Lautern (1778), Marburg (1787), and Heidelberg (1808), and at his death was a privy councillor of Baden. The best known of his writings is an autobiography, *Stilling's Jugend, Jünglingsjahre, Wanderschaft, Lehrjahre, häusliches Leben und Alter* (published in three parts, 1787, 1789, and 1817), a curious work, containing many profound thoughts, and marked by an eccentric religious and moral enthusiasm. He wrote several allegorical and mystical tales, as the *Geschichte des Herrn von Morgenthau* (1779), *Geschichte Florentine von Fahlendorf* (1781), *Leben der Theodora von Linden* (1788), *Das Heimweh* (1794), and *Theobald, oder der Schwärmer* (1797). In his autobiography he took a sentimental delight in picturing his 3 successive wives, and love and marriage are treated with special enthusiasm in his romances. In his later works he appears as a ghost-seer and theosophist. The most important of them are: *Theorie der Geisterkunde* (1808), and *Apologie der Theorie der Geisterkunde* (1809), full of marvellous but not carefully authenticated narratives; *Scenen aus dem Geisterreich* (1817), consisting of conversations in heaven, and inculcating a sort of worship of genius; and the poem *Chrysdon, oder das goldene Zeitalter* (1819), descriptive of the millennium. His various works were collected in 14 vols. (Stuttgart, 1838).—His daughter AMALIE, who presided over an institution founded by the grand duchess Stephanie of Baden, died in Mannheim in Jan. 1860.

JUNGERMANNIA (Linn.), the name of a genus of small cryptogamic plants, of which there are many species indigenous to North America. The genus is dedicated to Jungermann, a German botanist of the 17th century, and it was at one time the type of the natural order, which comprises a large number of distinct kinds. They are also sometimes called scale mosses, being creeping moss-like plants, with entire, or from two to many lobed stem leaves, the fructification terminal on the main stem or on a short branch; the floral organs are scattered, free or immersed antheridia and solitary pistillidia, having both an involucre and involucl. The seed-like bodies (*sporidia*) are mixed with spiral threads (*elaters*), and con-

tained in 4-parted and 4-valved spore cases. These little plants are interesting to the botanist on account of the intermediate rank which they maintain between certain lower and higher orders of the acrogens, and as indicating the approach in gradual development to a higher organization. The number of species found in this country, according to Sullivant's "Mosses of the United States," is 18, all represented by European types. Most of them grow in woods and among mosses upon wet rocks, trunks of trees, and wherever moisture is periodically to be found. Some affect alpine situations, as *J. setiformis* (Ehrhart). Scarcely any other plants exceed the entire group of the *Jungermanniaceae* for delicacy of forms, beauty of foliage, variety of colors, contour of expansive development, elegance of the organs of fructification, and minuteness of proportions, or afford the botanist more pleasure in their investigation.—See Sir Wm. J. Hooker, "British Jungermanniaceae, or a History and Description with Colored Figures of the Genus and Microscopical Analyses of the Parts" (folio, London, 1816); Gray's "Manual of the Botany of the Northern United States" (revised ed., New York, 1858).

JUNGFRAU (the "Maiden" or "Virgin"), a picturesque mountain, or rather group of mountains, in Switzerland, forming one of the ridges of the Bernese Alps, and separating the cantons of Valais and Bern. It is the 8th in height of the European mountains, reaching an altitude of 13,718 feet, and derives its name either from the pure mantle of snow which covers its crest, or from the fact that until the present century it was deemed inaccessible. In 1811, however, the brothers Meyer of Aarau claimed to have ascended it. In 1828 the highest peak was reached by some peasants from Grindelwald, and in 1841 by Prof. Agassiz, accompanied by Prof. Forbes of Edinburgh and others. Although the thermometer fell to 6½° below zero, lichens were found on the highest exposed points. The highest peak rises in a sharp point, the summit being not more than 2 feet broad. The Silberhörner, which are inferior peaks on the W. side, are remarkable for their graceful forms.

JUNGHUHN, FRANZ WILHELM, a German naturalist, born in Mansfeld in 1812. He studied medicine, botany, and geology in Halle and Berlin, and became assistant surgeon in the Prussian army. Having fought a duel, he was sentenced to 20 years' imprisonment, but escaped to France, and afterward entered the foreign legion in Algeria as a medical officer. Ill health compelled him to return to France, and, having received a pardon from his government, he went to the Dutch East Indies, was employed there for some time as physician, and afterward explored the islands, especially Java, under the auspices of the government. His *Topographische und Naturwissenschaftliche Reisen* were edited by Nees von Esenbeck (Magdeburg, 1845). German and Dutch editions of his *Batalländer in Sumatra* appeared in Berlin and Leyden in 1847; and a German version by

Haackarl of his *Zurückreise von Java nach Europa* in 1851. His most important work, considered by many the best on the subject, treats of the botany, geography, and geology of Java (*Java, seine Gestalt, Pflanzendecke und innere Bauart*, 8 vols., German ed., Leipzig, 1852). A work is now in progress in which several naturalists are engaged, giving, under the title of *Planta Junghuhniana*, a description of plants and fossils which he discovered in Java.

JUNGMANN, JOZEF JAKOB, a Slavic philologist and author, born at Hudlitz, Bohemia, July 16, 1778, died in Prague, Nov. 14, 1847. From a poor farmer's boy he rose to the highest academical position at the university of Prague. Among his first literary labors were translations of Oháteaubriand's "Atala" and Milton's "Paradise Lost," which Bowring calls "the most admirable among the many admirable versions of that renowned and glorious heroic." In 1820 he published a Bohemian chrestomathy (*Slownost*, 2d ed. 1845); in 1825 a history of the Bohemian language and literature (2d ed. 1848); and in 1835-'9 a complete Bohemian-German dictionary (*Slownik Cesko-Nemecky*), which is regarded as his most important work, and as worthy to rank with the best English and German lexicographical works. His patriotic devotion to the development of the Bohemian language and literature, the generosity of his disposition, and his great popularity as a teacher, have established for him a high reputation; and in 1860 it was proposed to erect a monument in his honor in the university buildings of Prague.

JUNIATA, a central co. of Penn., watered by Juniata river; area, 360 sq. m.; pop. in 1850, 13,029. It has a mountainous surface, with many fertile valleys. The productions in 1850 were 138,633 bushels of Indian corn, 187,187 of wheat, 102,493 of oats, 12,288 tons of hay, 262,035 lbs. of butter, and 14,686 of wool. There were 25 grist mills, 20 tanneries, 2 woollen factories, 2 iron foundries, 2 newspaper offices, 26 churches, and 2,000 pupils attending public schools. The Pennsylvania railroad and canal pass through Mifflintown, the capital.

JUNIATA, a river of Penn., formed near the centre of the state by the junction of the Little Juniata and Frankstown branch, which rise at the foot of the Alleghany mountains. Its general course is E., with many deviations; and after passing through a picturesque and mountainous country, it joins the Susquehanna 14 m. above Harrisburg. Including the Frankstown branch, it is about 150 m. long. It is not navigable. The Pennsylvania canal follows its banks throughout its whole course.

JUNIPER (*juniperus*, Linn.), a genus of evergreen trees or shrubs, with subulate or else scale-like, rigid leaves, belonging to the natural order of *coniferae*. The common juniper (*J. communis*, Linn.) is best known in America as a low shrub, spreading flat upon the ground, though sometimes rising to the height of from 2 to 8 feet. Its foliage consists of leaves arranged in threes, which are linear, awl-shaped, prickly

pointed, spreading, and of a bright green excepting the glaucous whitish hue of the upper surface. The berries are dark purple, about the size of a pea. The common juniper is regarded as identical with the juniper of Europe, though there, according to Loudon, it is known to have attained to the size and form of a tree. One figured in his *Arboretum Britannicum* was 20 feet high, with a trunk $5\frac{1}{2}$ feet in circumference at the base. An instance of an altitude of 80 feet is also given. Such tall-growing forms average an annual growth of from 6 to 9 inches, until, having reached a height of 6 or 8 feet, the upward growth becomes slower, and their duration may be computed at more than a century. The leaves of the juniper have a strong and rather unpleasant taste, with a little astringency. The peculiar juice of the bark appears to consist of resin and volatile oil. The part mostly used in medicine is the berries; the medicinal powers may be regarded as residing in the oil, which these berries yield on distillation. The berries have long been employed for the purpose of a diuretic, particularly in dropsy, and of giving to gin their peculiar flavor.—The *J. Virginiana* of Linnæus is known as the red cedar or savin, and is a beautiful and picturesque tree, rising to a height of 15 to 30 feet, often covering rocky pastures, and yielding valuable timber from its trunk. Its foliage consists of 4-ranked, much crowded leaves; on young plants or rapidly growing twigs the leaves are awl-shaped and somewhat spreading in pairs or threes, but on the older lateral branchlets they are very small, scale-like, and imbricated. Its flowers are dioecious; the barren ones in small, terminal, oblong, yellowish-brown aments; the fertile ones minute in size, consisting of about 6 fleshy, bluish scales in pairs or threes, united at base, and containing one or two covered ovaries or germs; from the coalescing of these swelling germs is formed an obscurely 4-sided berry (*galbulus*), containing a seed or two covered with a bony shell. The red cedar, if pruned when young, may be made to have a smooth and straight trunk, and a handsome head. Sometimes individual trees may be observed, of handsome proportions, which have acquired these properties naturally. Others, upon bare and exposed hills, have short and thickened trunks, supporting broad, flat, and very picturesque heads. Others, exposed to strong winds blowing from the ocean, assume fantastic shapes. The wood is close-grained, smooth, compact, and durable. The sap wood is white, while the central portion of the trunk is of a beautiful red color, from which circumstance it receives its common name, although it is not a cedar. Its leaves are believed to possess the same medicinal properties as savin. A well known variety is the *J. comm. procstrata*, identical with the *J. repens* (Nuttall); this variety occurs on the banks of the Genesee river, N. Y., according to Dr. Bradley. The range of the species seems to be from the Saskatchewan in Canada, in lat. 54° , as far S. as Florida and

Louisiana, westward to the Rocky mountains, and in Bermuda and Barbados. The Bermuda red cedar, which has been found to be tender in Great Britain, is indigenous in the Bermuda islands, where it grows to a large tree, and its soft fragrant wood is employed in the manufacture of lead pencils.—The tall juniper (*J. excelsa*) was first discovered in Siberia by Pallas, and is a handsome evergreen with an upright trunk and slightly pendulous branches. The Chinese juniper (*J. Chinensis*, Linn.) is also a beautiful species with a dark green foliage.

JUNIUS, the signature of an English political writer, the author of letters which appeared in the London "Public Advertiser" newspaper between Jan. 21, 1769, and Jan. 21, 1772. As acknowledged in the first authorized collection, the series consisted of 44 letters by Junius and 15 by Philo-Junius, an auxiliary part being assumed under the second name for the purpose of supporting and defending the principal character, but with the design of being ultimately avowed. There have been preserved also 62 brief business letters which he addressed to Woodfall, the publisher of the "Public Advertiser," between April 20, 1769, and Jan. 19, 1772, and 10 letters written by him in private correspondence with John Wilkes between Aug. 21 and Nov. 9, 1771. To the same hand are attributed also 118 letters, on various political subjects and under different signatures, as Mneumon, Atticus, Lucius, Brutus, and Domitian, published in the "Public Advertiser" between April 28, 1767, and May 12, 1772. Some of these are of doubtful authenticity, and few of them are so elaborately finished and polished as the letters of Junius, to which signature he adhered for his most important addresses after the extraordinary effect produced by the first letter under it, apparently employing others when he wrote for explanatory and collateral purposes. The utmost period in which the agency of Junius can be traced is thus less than 6 years, and the period in which he wrote his acknowledged letters is about 8 years. These letters, directed against the ministry and the leading public characters connected with it, contain some of the most effective specimens of invective to be found in literature. Their condensed and lucid diction, studied and epigrammatic sarcasm, dazzling metaphors, and fierce and haughty personal attacks, made them at once attractive and appalling, and arrested the attention equally of the government and of the public. Not less startling was the immediate and minute knowledge which they evinced of court secrets, making it believed that the writer moved in the circle of the court, and was intimately acquainted not only with ministerial measures and intrigues, but with every domestic incident. They exhibited indications of rank and fortune as well as scholarship, the writer affirming that he was "above a common bribe" and "far above all pecuniary views." When Woodfall was prosecuted in consequence of Junius's letter to the king, the author promised to make restitution

to him of any pecuniary loss. The authorship of Junius was the greatest secret of the age. Every effort that the government could devise or private indignation prompt was in vain made to discover it. "How comes this Junius," said Burke in the house of commons, "to have broke through the cobwebs of the law, and to range uncontrolled, unpunished, through the land? The myrmidons of the court have been long, and are still, pursuing him in vain. They will not spend their time upon me, or you, or you. No; they disdain such vermin, when the mighty boar of the forest, that has broke through all their toils, is before them. But what will all their efforts avail? No sooner has he wounded one than he lays down another dead at his feet. For my part, when I saw his attack upon the king, I own my blood ran cold. I thought he had ventured too far, and there was an end of his triumphs, not that he had not asserted many truths. . . . But while I expected in this daring flight his final ruin and fall, behold him rising still higher, and coming down souse upon the two houses of parliament. Yes, he did make you his quarry, and you still bleed from the wounds of his talons. You crouched, and still crouch, beneath his rage. Nor has he dreaded the terrors of your brow, sir; he has attacked even you—he has—and I believe you have no reason to triumph in the encounter. In short, after carrying away our royal eagle in his pounces, and dashing him against a rock, he has laid you prostrate. King, lords, and commons are but the sport of his fury." The earl of Mansfield and other legal advisers of the crown had many consultations as to how this "mighty boar of the forest," as he was called by others beside Burke, could be most adroitly ensnared in the network of the law. The host of enemies whom he aroused in every direction were eager in plotting schemes for his detection. But, aware that his power and perhaps his personal safety depended upon concealment, he continued to astonish every one by his secret intelligence and to assail the government with undiminished intrepidity and rancor, revealing his apprehensions and precautions only in his private notes to Woodfall. His security was doubtless due in large measure to the forbearance and honor of this publisher, who followed strictly the imperative and precise orders of his correspondent. In one of his letters to a public character he gave as a reason for his concealment: "Though you would fight, there are others who would assassinate." In a letter to Woodfall he writes: "I must be more cautious than ever. I am sure I should not survive a discovery three days; or if I did, they would attain me by bill." In other letters he speaks with the utmost confidence: "As to me, be assured that it is not in the nature of things that they, or you, or anybody else should ever know me, unless I make myself known; all arts, or inquiries, or rewards would be equally ineffectual;" and in his dedication to the English nation he declared: "I am the sole depositary of my own secret,

and it shall perish with me." Junius appears to have written in a disguised hand. Various prescribed signals, as "O," "A letter," or a scrap of Latin poetry, were made to him in the notices to correspondents in the "Public Advertiser." Answers and parcels from the printer were left for him according to his orders in a great variety of places, addressed to different names. How much of the carrying part of the business was performed by himself is not certain; it is probable that when he employed another hand it was that of a porter who knew nothing of the contents or author of the packet with which he was intrusted. In a private note to Woodfall he complains: "Your letter was twice refused last night, and the waiter has often attempted to see the person who sent for it." A respectable authority affirms that he once saw a tall gentleman in a light coat, with bag and sword, throw a letter from Junius into the office door of Woodfall, and that he immediately followed the bearer until after a short distance he got into a hackney coach and drove off. Wilkes wrote on the first letter that he received from Junius: "Received by a chairman, who said he brought it from a gentleman whom he saw in Lancaster court, in the Strand." Who the person was who thus foiled the scrutiny of his own age has been the subject of more than 100 volumes or pamphlets, and of a vast number of essays in periodicals. He has been identified at different times with Sergeant James Adair, Col. Isaac Barré, Hugh Macaulay Boyd, Edmund Burke, Bishop John Butler, Lord Camden, Lord Chat-ham, Lord Chesterfield, J. L. De Lolme, John Dunning (Lord Ashburton), Samuel Dyer, Henry Flood, Dr. Philip Francis, Sir Philip Francis, Edward Gibbon, Richard Glover, Henry Grattan, William Greustrake, George Grenville, James Grenville, William Gerard Hamilton, James Hollis, Sir William Jones, John Kent, Gen. Charles Lee, Charles Lloyd, Thomas Lord Lyttelton, Lachlan Macleane, the duke of Portland, Gov. Thomas Pownall, Sir Robert Rich, John Roberts, the Rev. Philip Rosenhagen, Lord George Germaine (Viscount Sackville), Earl Shelburne, Earl Temple, John Horne Tooke, Horace Walpole, John Wilkes, Alexander Wedderburn (Lord Loughborough), Dr. James Wilmot, and Daniel Wray. Several of these laid claim to the honor of which they were ambitious, while the real author may have declined to accept a brilliant literary fame with the stigma of an almost fiendish malignity of character. The first attempt to fix the authorship upon Sir Philip Francis was made in 1816, by John Taylor, in his "Identity of Junius with a Distinguished Living Character Established," and it has from that time been more generally ascribed to him than to any other. According to Macaulay, "the case against Francis, or, if you please, in favor of Francis, rests on coincidences sufficient to convict a murderer." Beside numerous and constant coincidences in dates and circumstances, and resemblance of character and

handwriting, it should be observed that he never directly denied the charge. In answer to an inquiry, he wrote evasively: "Whether you will assist in giving currency to a silly malignant falsehood is a question for your own discretion." Lady Francis affirms that his first gift to her after marriage was an edition of Junius, which he bade her take to her room, keep from sight, and never to speak on the subject; and he made a posthumous present to her of a sealed copy of Taylor's "Identity of Junius," found in his bureau. According to her statement, also, Sir Philip made himself known as Junius to the king, Lord North, and Lord Chatham, under an engagement of secrecy, and received in consequence his Indian appointment; and the secret was faithfully kept by each of the contracting parties, who were equally interested in not divulging it.—Complete editions of his letters were published by George Woodfall, son of the original printer of them (8 vols., London, 1812 and 1814), to which an elaborate preliminary essay was prefixed by Dr. John Mason Good. A new edition (1850-'55), by John Wade, forming two volumes in Bohn's "Standard Library," contains the whole of Woodfall's edition, and an essay with new evidence concerning the authorship, which increases the strength of the claim made for Sir Philip Francis. The most complete bibliography of Junius is given in Lowndes's "Bibliographer's Manual," vol. iii. (London, 1860).

JUNIUS, FRANCOIS (FRANÇOIS DU JON), a scholar and philologist of French descent, born in Heidelberg, Germany, in 1589, died in Windsor, England, Nov. 19, 1677. His father, of the same name, celebrated for his Latin translation of the Scriptures in conjunction with Tremellius, commentaries, and other writings, was professor at Heidelberg and afterward at Leyden. Here the son studied mathematics with a view to the profession of a military engineer, and in 1608, after the death of his father, joined the army; but leaving it on the truce of 1609, he devoted himself to study and literature. In 1620 he went to England, and for 30 years filled the office of librarian to the earl of Arundel. During this period he studied the Teutonic languages, and came to the conclusion that the Gothic was the parent of them all. He published an edition of the Gothic Gospels of Ulphilas, with a commentary; but his greatest work was his *Glossarium Gothicum*, in 5 languages, the Saxon department of which has since been issued separately under the title of *Etymologicum Anglicanum*. He also wrote a treatise *De Pictura Veterum*, which he translated into English himself. In 1650 Junius visited Germany, and remained there for some years. He died while residing in the house of his nephew, Isaac Vossius. He bequeathed all his MSS. to the Bodleian library at Oxford.

JUNK (Portuguese, *junco*), a general name applied by Europeans to vessels navigating the seas of eastern Asia, and especially of China and Japan. The Chinese junks of commerce

are unwieldy flat-bottomed vessels, varying in length from 50 to 200 feet, and sometimes having a capacity of 700 or 800 tons. They have 3 masts, and a short bowsprit placed on the starboard bow; an elevated bow and stern; and sails of mats, which are run through with strong bamboo rods at the distance of every 2 or 3 feet, and are hoisted by a large rope. In large junks the main sail frequently weighs several tons. The rigging is of the rudest description, and the masts are frequently unsupported by shrouds. The anchor is made of a hard species of wood called iron wood. Junks sail well before a wind, but in general are not adapted for long sea voyages. The voyage of the Keying, a vessel of 700 or 800 tons, in 1847, to New York, whence she went to England, forms the first exception on record to this rule.

JUNO, called by the Greeks *HERA*, in ancient mythology, a daughter of Saturn and Rhea, and the sister and wife of Jupiter. At her marriage all the other divinities attended and presented the bride with gifts, among which was the tree with the golden apples which was consigned to the care of the Hesperides. She was treated with the same reverence by the Olympians as the father of gods and men himself, and styled the queen of heaven. She was sur-named (by the Greeks and Romans respectively) *Βασίλεια* and *Regina* as the celestial queen; *Γαμήλια* and *Pronuba*, as the patroness of marriage; *Ελευθια* and *Lucina* as presiding over childbirth. She was not, according to Homer, a very amiable, obedient, or devoted wife, and her jealousy, obstinacy, and violence often caused Jupiter to tremble on his throne. Having conspired with Neptune and Minerva to dethrone and confine him, Jupiter bound her with chains, and hung her up in the clouds. Juno was the mother of Mars, Hebe, and Vulcan. The chief seats of her worship were Argos, Samos, Sparta, and Rome. Her most celebrated Hellenic temple, situated near Argos, contained a colossal statue of the goddess, made of ivory and gold. At Rome her principal temple was on the capitol hill, and her great festival, the *matronalia*, was celebrated on the 1st of March by the wives and matrons of the city. Juno is usually represented in works of art as a woman of majestic mien, crowned, and sitting in a chariot, with a peacock beside her.

JUNOT, ANDOCHÉ, duke of Abrantès, a French soldier, born in Bussy-le-Grand, Burgundy, Oct. 28, 1771, died in Montbard, July 29, 1818. He was educated for the law, but in 1792 enlisted in the army as a volunteer, and by his courage won the *sobriquet* of "the tempest." He attracted the attention of Bonaparte at the siege of Toulon, and a close intimacy sprung up between the two, Junot's devotion to his superior amounting almost to fanaticism. He accompanied Bonaparte to Italy as his aide-de-camp, and won the rank of colonel in the campaign of 1797. He distinguished himself in Egypt, and was made brigadier-general. A wound received in a personal encounter with a

brother officer, who was not as enthusiastic an admirer of Bonaparte as himself, delayed his return to France, and he landed at Marseilles on the day of the battle of Marengo. He was forthwith appointed to the command of Paris, and a few months later married Mlle. Laure de Permon, and received the rank of general of division. But his own as well as his wife's indiscretions were so distasteful to Napoleon, that in 1808 he removed Junot to the command of one of the corps of the "army of England." On the establishment of the empire, Junot was promoted to the rank of colonel-general of the hussars, received a pension of 30,000 francs, and a little later the grand cross of the legion of honor; but he could not conceal his disappointment at not having been placed among the first marshals of the empire. His dissatisfaction, his improper behavior and lavish expenditures, coupled with his wife's eccentricities, caused the emperor to send them for a while into honorable exile; and Junot was, in 1805, appointed ambassador to Lisbon, where he distinguished himself only by his ostentation. In the same year he went to Germany without permission, and arrived in time to participate in the battle of Austerlitz. In 1806 he was again appointed governor of Paris and commander of the 1st military division; but the same follies on his part led to the same result as before. He was sent to Spain to take command of the army that was to invade Portugal; here at least he showed his talent as a general, succeeded in taking possession of the country in the face of the greatest difficulties, and won by his gallant conduct the title of duke of Abrantès; but his success was soon checked by the arrival of Sir Arthur Wellesley with an English army. Junot was defeated at Vimiera, and constrained by the convention of Cintra, Aug. 22, 1808, to evacuate Portugal. Landed at La Rochelle with his troops by the English fleet, he immediately joined Napoleon, who took him back to Spain, where he was placed in command of the 3d corps, then besieging Saragossa. He participated in the campaign of 1809 in Germany, and in 1810 was sent back to the Peninsula, where he was severely wounded in the face by a bullet. In 1812 he commanded a corps of the invading army in Russia; but his slow operations did not satisfy the emperor, who, instead of employing him actively the next year in Saxony, appointed him commander of Venice and governor-general of the Illyrian provinces. This kind of disgrace, combined with other troubles and the suffering brought upon him by his old wounds, preyed so much upon his constitution that he became insane, and was taken to his father's house near Dijon, where he threw himself from a window and died from the effects of the fall.

JUNOT, MADAME. See ABRANTÈS, DUCHESS OF.

JUNTA (Sp.), in Spain, a name given to legislative assemblies or administrative councils. In the middle ages, the assemblies of the representatives of the nation, without any preliminary

call of the monarch, were termed general juntas. It was sometimes used as synonymous with cortes. Charles II. established a great junta to regulate and determine the competency of the inquisition. There was afterward a royal junta of commerce and the mines, and another of the tobacco monopoly. In 1808 Napoleon convoked at Bayonne under the name of a junta an assembly of 150 representatives of the nation (of whom only 90 appeared), for the adoption of a constitution which he wished to introduce into Spain. After the insurrection of the provinces several juntas were formed in them, which were finally absorbed in a central junta of 44 members; but provincial juntas reappeared in the subsequent revolutions. The same term was employed in the Spanish colonies which have become independent.—In English, the word *junta* designates a cabal formed usually for some sinister purpose.

JUPITER (Gr. Zeus), the greatest of the Greek and Roman gods, was a son of Saturn and Rhea, and the brother of Neptune, Pluto, Vesta, Ceres, and Juno. As Saturn used to devour his children as soon as they were born, his wife Rhea, when she found herself pregnant with Jupiter, entreated Coelus and Terra to save the life of the child. They advised her to flee with the infant to Crete, which she accordingly did, and concealed him in a cave of Mt. *Ægæon*. As he approached maturity Jupiter gave evidence of the divinity of his nature. He delivered the Cyclops from the bonds with which they had been fettered by Saturn; gave liberty to the hundred-handed giants Briareus, Cottys, and Gyes; subdued the Titans, and shut them up in Tartarus; and finally dethroned his father, and obtained the empire of the universe, which he shared with his brothers Neptune and Pluto, assigning the dominion of the sea to the former, that of the lower regions to the latter, and reserving for his own peculiar realm the heavens and the atmosphere; while over the earth and earthly beings the whole three exercised a joint rule. Jupiter fixed his residence on the summit of Olympus, and took successively to wife Metis, by whom he became the father of Minerva; Themis, who bore him the Horæ and the Parcæ; Eurynome, who was the mother of the Graces; Ceres and Mnemosyne, whose offspring were Proserpine and the muses; Latona, who became the mother of Apollo and Diana; and Juno, whose children by him were Mars, Hebe, and Vulcan. Jupiter was the most powerful of the heathen gods, the supreme ruler of mortals and immortals. Every thing good or bad proceeded from him, and at his pleasure he assigned a happy or an unhappy destiny to earthly beings. He was armed with thunder and lightning, and at the shaking of his shield the tempest raged, and the rain and the hail descended. His most distinctive epithets were *Ὀλυμπιος*, or Olympian, *Capitolinus*, from his principal temple at Rome on the Capitoline hill, and *Κεραυνιος*, or *Tonans*, "the thunderer." The most celebrated Hellenic temples of Jupiter were those of Do-

dona and Olympia, the latter of which contained the famous colossal statue of the god by Phidias. The eagle, the oak, and the summits of mountains were sacred to Jupiter, and his favorite sacrifices were goats, bulls, rams, and cows. Jupiter is generally represented sitting on a throne with a thunderbolt in his right hand, a sceptre in his left, and an eagle standing by him.

JUPITER AMMON. See **AMMON**.

JUPITER, THE PLANET. See **ASTRONOMY**.

JURA, an island off the W. coast of Scotland, belonging to the inner Hebrides, and separated from the mainland by a channel less than 2 m. wide; length 23 m., breadth 6 m.; area, 156 sq. m.; pop. in 1851, 1,064. A mountain range, whose highest peaks are termed the paps of Jura, traverses its entire extent, save where Tarbet Loch interrupts it. The aspect of Jura is wild, rugged, and inhospitable. There are no fertile valleys, but it has some excellent slate quarries, and a very fine sand for glass-making. Jura is famous for its red deer, and for caverns remarkable for their size and beauty.

JURA, an E. department of France, formed from a part of the old province of Franche-Comté, bounded N. by the department of Haute-Saône, N. E. and E. by Doubs and Switzerland, S. by Ain, and W. by Côte d'Or and Saône-et-Loire; area, 1,894 sq. m.; pop. in 1856, 296,701. The name is derived from the mountains which cover $\frac{1}{2}$ of the department. The surface presents 3 divisions, viz.: the western part, consisting of a low plain about 7 m. in width; the first mountain elevation, rising suddenly from the plain and forming a plateau nearly 10 m. wide; and the high mountain district, consisting of lofty summits and deep valleys. The highest summits are Reculet, La Dôle, and Mont Poupet, which rise between 5,000 and 6,000 feet above the sea. Among the numerous rivers are the Ain, Loue, and Doubs, which are navigable. The Bienne is the most important of the smaller rivers. There are many marshes and lakes. The Rhone and Rhine canal traverses the N. part of the department, and railways run between Dijon and Besançon and several other places. Large quantities of squared timber are floated down in rafts to Lyons. The forests abound with pine and oak timber. Agriculture is highly advanced. The annual production of wine amounts to 8,000,000 gallons; the best wines are those of Lons-le-Saulnier and Poligny. Gold, copper, lead, coal, and iron are found. Lithographic stone, marble, and alabaster are quarried, and there are extensive salt works at Montmorot and Salins. The value of manufactured goods amounts annually to \$1,500,000, chiefly iron and iron wares. The department is divided into 4 arrondissements, Lons-le-Saulnier, Poligny, Sainte-Claude, and Dôle. Capital, Lons-le-Saulnier.

JURA, a range of mountains between Switzerland and France, extending about 180 miles in length from the waters of the Rhone in the department of Ain on the S. W. to those of the upper Rhine in a N. E. direction. The great

valley of Switzerland and the lake of Neuchâtel lie along its S. E. base, and over these from its summits may be seen Mont Blanc and the principal peaks of the Alpine chain. The Jura, like the Appalachian chain of the United States, consists of parallel ridges including narrow longitudinal valleys, along which the rivers flow in one or the other direction, occasionally passing through a break in the mountains into the next valley. In their external form, and the wave-like arrangement of the stratified rocks of which they are composed, the resemblance is still more striking. They occupy a belt of country of similar width, averaging about 80 miles; and the highest summits, which are mostly in the S. part of the range, attain about the same elevations as those of the Appalachian mountains in North Carolina. Mont Moleson is 6,588 feet high; Reculet de Toiry, 5,648; Mont Tendre, 5,588; Dôle, 5,509; Chasseron, 5,280; and Chasseral, 5,240. The principal strata are limestones of the oolite formation, named the Jura, from their abundance in this range, and with them are associated shales and sandstones, including beds of gypsum. The highest summits of the Jura lose their snowy winter covering in the summer season, and are then green with dense forests of fir. The growth below is in great part of walnut, groves of which surround almost every village. In the valleys are found some of the richest pasture lands in Switzerland, where are produced the Gruyère and other cheeses famed throughout Europe. Great numbers of cattle are reared and fed on the mountains. The Jura and the intermediate undulating country abound in wooded hills, among which rocky masses project at intervals, above the fertile slopes, which by the aid of irrigation yield 8 crops of grass annually. The most picturesque scenery is presented by the Val Montiers, or Münster Thal, between Basel and Bienne, the pass of Klaus at the foot of the Ober-Haenstein, and the lac de Joux.—The name Jura has also a wider application than to the mountain range above described; the continuation of the same limestone country through Swabia and Franconia being distinguished as the German Jura, situated between the Rhine and Main, and divided by the rivers Danube and Altmühl into 8 parts, viz.: the Black Forest Jura (*der Schwarzwald Jura*), situated between the Rhine and Danube; the Swabian Jura (*der Schwäbische Jura*), on the Danube and Altmühl, and designated by various names in various localities, as Ober-Hohenberg, Rauhe Alp, &c.; and the Franconian Jura (*der Fränkische Jura*), between the Altmühl and Main, traversed by the Ludwig's canal, and noted for its caves with bones of animals.

JURIEU, PIERRE, a French Protestant theologian, born in Mer, Orléanais, in 1637, died in Rotterdam, Jan. 11, 1718. He was sent to England to complete his education under his maternal uncle, Peter du Moulin, and while in that country was ordained. On returning to France, he succeeded his father in the pastorate of the reformed church at Mer, and after-

ward was made professor of divinity and Hebrew at the academy of Sedan, where he remained until the institution was suppressed in 1681. He then retired to Rotterdam, where he became professor of theology, and minister of the Walloon church. He passed the remainder of his life in that city, engaged in bitter controversy with friends and enemies, especially Bayle, who openly charged him with religious indifference. Jurieu however got the better of the philosopher, and caused his dismissal from his professorship. He was a man of great learning, ability, and polemical tact, but extremely violent in his temper. He was the author of various works, highly esteemed in their day, though now almost forgotten. Of these the most important are: a "History of Calvinism;" a "History of the Opinions and Religious Ceremonies of the Jews;" a "Critical History of the Dogmas and Worship of the Church from Adam to Christ;" and a treatise "On Devotion."

JURY, a chosen body of men, whose duty it is either to judge and determine certain questions of fact submitted to them, or to inquire into the existence of certain alleged facts. Upon the jury a very large proportion of the whole procedure for the trial of actions in England and America rests. Its intrinsic importance has made the inquiries into its early origin and history interesting; and they are the more so, because they are found to be closely interwoven with investigations into the political, legal, and social institutions of many nations. Different writers have come to very different conclusions, perhaps because they began from different points of departure, and viewed their facts under different aspects. In almost all the results thus presented there is some truth; but we apprehend that they have erred in attributing the institution of juries to some one or two only of the many origins from which it has arisen, and the many influences which have combined to give to it its present form in England and in the United States. Its principal source has been found in the *δικαστήριον* of Athens, or in the *judices* of Rome, or in the compurgators of the Saxons, or in the trial by the vicinage of the Romans, or in the Norwegian *Gulathing*. We apprehend that it would be, if not impossible, at least so difficult to determine which among all these things may be considered as having contributed most to form the trial by jury, that the inquiry is not worth the time and labor it costs; for it must end in the conclusion that all have contributed, and importantly, to this result. The essence of the trial by jury is the determination of questions arising in actions at law by a select body of persons, who, without holding permanent judicial offices, come from among the people for this purpose, and, after their work is done, return to them. In Asia we find nothing of this at any time; and nothing of it in history, until the *δικαστήριον* of Athens was regulated if not introduced by Solon. The dicasts were a large body of men, numbering some thousands, who were selected or appoint-

ed from among the freemen of Athens, in some way under if not by the archons. From this large body a smaller number was selected, perhaps by lot, for each case, to hear and determine the questions which might arise in that case, under the direction of a presiding archon or other magistrate. Before proceeding to hear any case, they were sworn to discharge their duty faithfully. After hearing the case, they gave their votes by depositing them in urns or vases, from which the presiding magistrate took them and announced the verdict. Each dicast received from one to three oboli for his services. In this there is much resemblance to the jury of our own day; the principal difference being in the large number who sat in each case, which appears to have been sometimes as many as 500. This body the advocates addressed, beginning their speeches with *ἄνδρες δικασταί* (as we see in Demosthenes, Æschines, and Lysias), in the same manner as our advocates say: "Gentlemen of the jury." It cannot be doubted, we think, that the judicial procedure of Rome was, to a great extent, derived from and formed by that of Athens. We are accustomed to translate the word *judex* by "judge," but there was no officer or magistrate known to the Romans who discharged precisely the duties which with us belong to the judge; the prætor came nearest to it; but *judex* would be much better translated by the word juryman. When the plaintiff (*actor*) came before the prætor or other magistrate having jurisdiction, he made his complaint, and the defendant (*reus*) answered it. The prætor then referred the case to the judges to determine the facts; usually stating, in this reference, that such or such conclusions of law would follow from such or such conclusions of fact. The number of judges usually sitting is not known, and sometimes even an important case was tried before a single *judex*; as we know that Cicero delivered his oration *Pro Quintio* before one *judex*, assisted by a *consilium*. The judges generally were aided by jurisconsults who sat with them. The whole number of persons from whom could be selected the judges of each case was in Rome as in Greece large, amounting to some thousands; but by whom or on what principle it was appointed, or how or by whom the smaller number was appointed for each case, is not certainly known. There was sometimes an agreement of the parties as to the *judex* or judges, who were sometimes called *arbitri*, and who then answered to our arbitrators; and there was a method of objecting to judges appointed by lot or otherwise (*recusatio judicis*), which answered very exactly to our challenges. As we know that, as soon as Rome conquered a province, it introduced at once the provisions and the forms of its own law (its *jura et instituta*), in part perhaps because the province might be thus most effectually bound to the empire, and in part also because they were always better than those of the conquered nation; and as we know therefore that institutions, which resembled in

so many particulars our jury, were in full force in England for more than three centuries, it would seem to be unreasonable to deny them an important influence in creating the trial by jury. But, on the other hand, the Saxons brought into England the trial by compurgators. Then the party accused, or in later times the party plaintiff or defendant, appeared with his friends, and they swore, he laying his hand on theirs and swearing with them, to the innocence of the accused, or to the claim or defence of the party. Little is certainly known either of the origin or of the extent, in point of time or of country, over which the trial by compurgators prevailed; but it must have had great influence upon the subsequent forms of procedure. If in nothing else, it fixed the number of the traverse jury at 12, that being the common number of compurgators, whence the old mediæval phrase, *jurare duodecima manu*; and this was a great improvement on the varying and sometimes very large number in Greece and Rome. Beside this, however, recent investigation has shown, among the Norman legal usages, traces of trial by jury, more numerous, and more nearly resembling that trial as now conducted, than any thing known to have existed among the Anglo-Saxons. Moreover, it is now known that, with much variety of form, modes of trial essentially similar to that by jury prevailed among both the Teutonic and Scandinavian nations, from a very remote antiquity. We regard it therefore as certain that all these influences contributed to establish this mode of trial in England, and to shape it as we know it to exist there. Indeed, it was not until all of them had had an opportunity of completing their work, that we find what we should now call a jury certainly existing. Glanville represents it, in one of its most important forms and purposes, as introduced in the reign of Henry II.; he calls it "a royal benefit conferred upon the people by the goodness of the sovereign, with the advice of the nobility." So many of the attendant circumstances indicate that it was a Norman institution, bestowed upon his English subjects by a Norman king, that Sir Francis Palgrave has not hesitated to consider our jury trial as derived directly from Norman law.—One mistake in regard to a clause in *Magna Charta* is so common, and perhaps so important, that it should be corrected. The great charter says that no freeman shall be arrested or imprisoned, or exiled, or otherwise destroyed, *nisi per legale iudicium parium suorum, vel per legem terre*. This has been held to mean, "unless by lawful trial by jury;" and an argument has been drawn from it against the legality of any conclusive procedure against any person but on the finding of a jury. But the *iudicium parium* of *Magna Charta* did not mean a judgment or verdict of a jury. Even in *Magna Charta* itself we read of *juratores*; and the phrase *verdictum legalium hominum* and others by which a jury is indicated, are common in the law language of that day. But the *iudicium parium* was the peculiar and well known feudal

process, by which the lord with his vassals sat to try questions of title between others of his vassals. It is quite probable, however, that the alternative phrase, *per legem terra*, was intended to include trial by jury.—In Greece and Rome, in the Teutonic and Scandinavian nations, and probably among the Normans, the agreement of a majority of a jury, or of the body which represented a jury, was sufficient; but from the earliest times unanimity has been required in an English traverse jury, and the same rule is applied with the same strictness in this country. The origin of this peculiarity is quite unknown. The most plausible conjecture, for which indeed there is some authority, is, that originally there were or might be more than 12 jurymen, but the agreement of that number was required; and when the number of the jury finally settled down at 12 and no more, unanimity became requisite. There have been, in perhaps all ages, doubts whether the advantages of this rule were sufficient to compensate for the mischiefs which sometimes result from it; and these doubts have gone so far, that Lord Chancellor Campbell has introduced before the British parliament a bill providing that verdicts founded upon a certain majority of the jury might, in some specified cases, be sufficient. But this proposed change has not as yet found favor with the parliament; nor has any thing like it been enacted, or even formally proposed, so far as we know, in the United States.—There is, in respect to the evidence on which a jury acts, a circumstance strikingly illustrative of the change which has taken place in the constitution and in the functions of a trial jury. Now, they have nothing to do but to hear and weigh the evidence offered to them in open court; any thing beyond this is a departure from their duty; and if one of their number happens to know any thing about the facts of the case, he ought not to communicate it to the others, and they ought not to be influenced by it, unless he is sworn as a witness and examined as a witness; so anxious is the law to keep from the jury all evidence which does not rest upon an oath, and has not been submitted to examination. It is, however certain that, in the beginning of jury trials, and until the 15th century, the jury themselves were the witnesses, and the only witnesses, they being selected to determine the questions of the case because they were supposed to know the facts, and no other witnesses being examined, and no evidence whatever being offered to them. Nor was it until about the middle of the 16th century that there is any trace of any process known to the law for the summoning of witnesses. (See *Summers vs. Mosely*, 2 Crompton and Meeson, p. 485.)—As the jury must not pay any attention to any evidence not lawfully before them, so they must not go beyond the evidence, and inquire into the law, for that is the exclusive province of the court. In civil cases, no one has ever doubted this; that is, no one has ever doubted that in civil cases

it was the duty of the court to state the law to the jury, and the duty of the jury to receive and obey the law thus given to them. But of late, a question has arisen in regard to criminal trials, which has assumed, at least in many of the United States, an aspect of much importance. There are those who insist that in all criminal cases the juries shall be judges of the law as well as of the fact; and a year or two since a statute was enacted by the legislature of Massachusetts, which was intended to have this effect.—Juries are either grand juries or petit juries. Nearly all that has been said in this article relates only to petit juries, which are sometimes called traverse juries, and sometimes trial juries. A grand jury tries no question, and finds no verdict. The proper authority of the state, usually the attorney for the government, brings before the grand jury a case of supposed crime or wrong, with a bill of indictment, and the evidence on the subject. This they consider *ex parte*, or without hearing the accused; and if they think that the evidence is sufficient, they approve or “find” the bill, and present the accused to the court. If they do not think it sufficient, they “ignore” the bill (as it is termed), and no indictment is presented. The usual method of “finding” a bill is for the foreman (whom the jury choose) to write on the back of the bill: “A true bill,” with his signature and the date; and when a bill is rejected, the foreman writes upon it: *Ignoramus*, with signature and date. Sometimes the government attorney prepares no bill, but brings before them the case and evidence, and prepares a bill only when they direct him to do so. The grand jury are the exclusive judges of the weight and force of the testimony offered before them. The grand jury is generally more numerous than the petit jury. The more usual number is 23; originally it was 24, but as unanimity is not necessary, although at least 12 must agree to an indictment, to avoid the inconvenience of having 12 for and 12 against a bill, one less than 24 is the common number. Beside bills of indictment, and specific offenders, the grand jury may present to the court any public wrongs they think should be brought to its notice, and sometimes exercise a wide liberty in this respect. None are present with the grand jury during their deliberations but the officer of the government; and it is a part of their oath that they shall keep secret “the commonwealth’s counsel, their fellows’, and their own.” But there is a reasonable limit to this, for it is no uncommon thing for a grand juror to take the witness stand in a trial of a case, and testify as to what some person has said as a witness before the jury. A grand jury constitute a regular body, recognized as such by the law, having what may be called a jurisdiction coextensive with that of the court to which they make presentments.—Jurors, both grand and petit, are returned by the sheriff of each county (or, for the U. S. courts, by the marshal of each district), in obedience to a writ, called a *venire*,

which commands him to summon “to come” (*ut facias venire*, in the old law Latin) to the court at the appointed time the proper number of persons. The authorities of every city and town, or sometimes county, put into a box the names of all persons therein qualified and bound to serve as jurors. Usually these are all persons qualified to vote, with some special exemptions. When notice is given them to select and return the names of jurymen, the proper officer (as determined by statute or usage) draws a name from the box; and if persons are wanted both for grand and petit juries, usually the first 23 drawn are returned as grand jurors, and those that come after are for petit jurymen, until the necessary number is made out, which is usually enough to supply two or three juries. The names of these persons are given to the sheriff or marshal, and entered by him in the return of his *venire*. As no one can be called upon to discharge this duty, which is sometimes very burdensome, oftener than once in a certain number of years (usually three), when any one’s name is drawn, the day is indorsed upon the paper; and if it be seen that the same person has been drawn within three years, the paper is put back into the box and he is considered as not drawn. The whole list or schedule of a jury is called the “panel.” (In the Scotch law, the word “pannel” means the accused, or the party on trial.) The grand jury is “impanelled” when sworn and organized. A petit jury is impanelled when the names are called over, and the first 12 who are present, and are not excused or objected to, are sworn, and set apart as the jury. It is common in most of our courts having much business to impanel two juries; that sitting on the right hand of the court being called “the first jury,” and that on the left hand “the second jury.” Sometimes, though very seldom, and only when the urgent pressure of business requires it, a third jury is impanelled. The purpose in impanelling more than one jury is, that while one is charged with a case and is deliberating, another case may be tried before another jury. Upon trials before a jury, the court are the exclusive judges of the admissibility or competency of evidence; but if it be admitted, the jury are the judges of its value.—We may remark that the institution of the grand jury certainly existed, substantially the same or nearly the same as at present, among the Saxons; and it is from this grand jury that some suppose the petit or trial jury to be derived; and doubtless this is in some degree true.

JUSSIEU, Dr., a French family of natural philosophers who have been styled the “botanical dynasty” of France. The most celebrated are the following: I. ANTOINE, born in Lyons, July 8, 1686, died in Paris, April 22, 1758. After taking the degree of M.D. at Montpellier, and travelling with his brother Bernard in Spain and Portugal, he went to Paris in 1708, where he commenced practice, was appointed professor of botany at the king’s garden, entered the acad-

emy of sciences in 1711, and contributed several papers to the *Mémoires* of that learned society, the most curious of which is perhaps his *Recherches physiques sur les pétrifications qui se trouvent en France de diverses parties de plantes et d'animaux étrangers*. In the course of a journey through southern France and Spain he made a valuable collection of plants previously very imperfectly known. In 1720 he gave to Desclieux, a young officer in the French navy, a small coffee tree, which, being transplanted to Martinique, was the means of introducing the cultivation of coffee into the French West Indies. Among his published essays is a *Discours sur les progrès de la botanique* (Paris, 1718). He edited Barrelier's posthumous work, *Plantas per Galliam, Hispaniam, et Italiam Observatae, Iconibus Aeneis Exhibita* (Paris, 1714), and published a new edition of Tournefort's *Institutiones Rei Herbariae*, with an appendix (Lyons, 1719). His *Traité des vertus des plantes*, a synopsis of the lectures which he delivered at the faculty of medicine, was published by Gaudoger de Foigny in 1772. II. BERNARD, brother of the preceding, born in Lyons, Aug. 17, 1699, died in Paris, Nov. 6, 1777. He was graduated at Montpellier, joined his brother in Paris, and in 1722 was appointed assistant demonstrator of botany at the king's garden. A man of contemplative disposition, abstemious habits, and no ambition, he never rose above this subordinate office, but gradually obtained the reputation of one of the first botanists in Europe. In 1725 he edited Tournefort's *Histoire des plantes des environs de Paris*, with additions and annotations, which were considered so valuable that he was made a member of the academy of sciences, although he was only 26 years of age. To the *Mémoires* of that academy he contributed very few papers, and these on subjects of secondary importance, but remarkable for precision, ingenuity, and thorough method. He devised a system of classification based upon the natural affinities of plants, and applied it in 1759 to the arrangement of a botanical garden at Trianon, which had been ordered by Louis XV. The catalogue which he drew up on this occasion has been considered by competent judges as the foundation of the "natural system," afterward expounded by his nephew Antoine Laurent. The respect with which he inspired his contemporaries extended beyond the limits of his native country; and Linnaeus himself entertained the highest opinion of his acquirements. III. ANTOINE LAURENT, nephew of the two preceding, born in Lyons, April 12, 1748, died in Paris, Sept. 17, 1836. He was called to the metropolis in 1765 by his uncle Bernard, and studied medicine, but ultimately devoted himself to botany, in which, under Bernard's directions, he attained great eminence. As early as 1773 he presented to the academy of sciences a *Mémoire sur les renonculacées*, in which the first principles of the "natural system" are clearly perceptible; and the next year he reduced the system to practice in the replanting

of the botanical division in the king's garden. In 1778 he had so thoroughly matured his plan that he undertook the publication of his great work, *Genera Plantarum secundum Ordines Naturales disposita, juxta methodum, in Horto Regio Parisiensi exaratam, anno 1774*, which was not completed until 1789. To bring together all those plants which are allied in all essential points of structure, and to take into account the true affinities of plants on a comparison of all their organs, is the leading feature of the "Jussieuan system," which has finally triumphed over the artificial or sexual system of Linnaeus. In 1790 he was elected a member of the municipal council of Paris, and intrusted with the supervision of the hospitals and charities, which office he held for two years. In 1793, when the king's garden was reorganized as the museum of natural history, he was raised to a professorship, and while he held the office of director of that institution he laid the foundation of its library, which is one of the best, if not actually the best of its kind in Europe. In 1804 he was appointed professor of materia medica at the faculty of medicine, and life member of the council of the university, but was deprived of both these offices during the restoration. In 1826 his failing health and partial blindness caused him to resign his chair of botany at the museum in favor of his son Adrien. He preserved to the last his love of science and clearness of mind. He was very desirous of publishing a new edition of his *Genera Plantarum*, in which all the recent discoveries were to be embodied; but, unable to achieve so vast an undertaking, he contented himself with improving certain parts of it in a series of invaluable papers published from 1804 to 1820 in the *Annales du muséum*. Beside the works above mentioned, he is the author of several historical notices of the museum of natural history, and a number of valuable articles on botany in the *Dictionnaire des sciences naturelles*, among which the one upon the "Natural Method of Plants" deserves to be specially noticed. IV. ADRIEN, son of the preceding, born in Paris, Dec. 28, 1797, died June 29, 1858. On taking his degree of M.D. in 1824, he defended a thesis *De Euphorbiacearum Generibus*. He succeeded his father as professor at the museum in 1826, and soon achieved a distinguished rank among botanists by his lectures and publications. In 1831 he was elected to the academy of sciences, and in 1845 was appointed to the chair of the organography of plants at the Sorbonne; his lectures there, which he continued till the time of his death, were both brilliant and attractive. His most important work is a *Cours élémentaire d'histoire naturelle: Partie botanique* (Paris, 1848), which is by far the best elementary treatise on botany. An English translation by I. H. Wilson, under the title of "Elements of Botany," was published in London in 1849. His treatise on botanical taxonomy, which appeared in 1848, in the *Dictionnaire universel d'histoire naturelle*, is also very valu-

able. Among his papers printed either in the *Annales du muséum* or the *Comptes rendus de l'académie des sciences*, one of the best is his *Monographie des malpighiacées* (1848).—A very interesting essay, *De la méthode naturelle et des Jussieu*, was published by P. Flourens in his *Éloges historiques*, 2d series.

JUSTE, THÉODORE, a Belgian historian, born in Brussels in 1818. He is secretary of the Belgian board of education and member of many learned societies, and has popularized historical knowledge in his native country by a series of works on French, Belgian, and general history, the principal of which are: *Histoire élémentaire et populaire de la Belgique* (Brussels, 1888; 8d and enlarged ed. 1848); *Précis de l'histoire moderne considérée dans ses rapports avec la Belgique* (1845); *Histoire de la révolution Belge de 1790* (8 vols. 12mo., 1846); *Précis de l'histoire du moyen âge* (5 vols. 12mo., 1848); and *Les Pays Bas sous Philippe II.* (2 vols. 8vo., 1855).

JUSTICE OF THE PEACE. In the English law, justices of the peace are "judges of record appointed by the king's commission to be justices within certain limits, for the conservation of the peace and the execution of divers things comprehended within their commission and within divers statutes committed to their charge." Before the institution of this office there existed in England by the common law certain officers appointed for the maintenance of good order, and called *conservatores pacis*, keepers of the peace. Some of them exercised their functions by virtue of their tenures, and some by virtue of their offices; others were chosen by the freeholders of their counties. The period at which this office ceased, and justices of the peace were first created, has been disputed; but the better opinion seems to fix it at the beginning of the reign of Edward III. At that time the new king, fearing that some risings or other disturbances might take place in protest against the manner of his accession to the crown, sent writs to all the sheriffs in England commanding that peace be kept throughout their bailiwicks on pain and peril of disheritance and loss of life and limb; and in a few weeks after the date of these writs it was ordained in parliament that, for the better maintaining and keeping of the peace in every county, good men and lawful which were no maintainers of evil or barrators in the county should be assigned to keep the peace. (Black. Com. i. 350.) From that time the election of the conservators of the peace was taken from the people, and their creation resided thenceforth in the assignment of the crown. It was only, however, by subsequent statutes that the conservators of the peace acquired a judicial character and functions. By 4 Edward III. c. 2, they were empowered to "take indictment," and by 34 Edward III. c. 2, they were commissioned to "hear and determine" in cases of felonies and trespasses. It is probable that not until then were these officers called justices. The office, as constituted and defined by these and

later statutes, occupies an important place in the English judicial system. It was adopted in the several states of this country at their settlement, and may be considered to possess here the general character and functions allowed to it in England by force of statutes. But it is to be remarked that in all the states legislative enactments have so fully enumerated the powers and duties of justices of the peace, both in civil and criminal affairs, as perhaps to preclude reference to the English law on the subject.—Justices of the peace are in some states elected by the people, and in others receive their appointment from the executive. Their jurisdiction is determined by their commissions and the provisions of various statutes. These are to be strictly construed, and no authority can be implied. Without attempting a recital of all the particular functions exercised by these officers, it will suffice for our present purpose to mention, under their criminal jurisdiction, that when they are not limited by the existence of special courts, they possess still their ancient common law powers as conservators of the peace, and as such may suppress riots and affrays and apprehend all disturbers of the peace. Then they may punish them by fine, and take recognizances for their future good behavior. By virtue of their criminal authority they may also issue their warrants for the arrest of offenders. If the offence be a trifling one, they may themselves determine in the matter. If, however, it be of an aggravated nature, they commit or bind over the criminal for trial in a regular court. They may judge in civil suits when but a small amount is involved, but not generally if any title to real property comes in question. As further examples of their usual powers, it may be added that they may issue summonses for witnesses to appear in their own courts, and to answer in civil suits pending before other courts; they may administer oaths in all cases in which an oath is required; they may celebrate marriages; and may make examinations and issue warrants in cases of bastardy. They also exercise certain functions under the poor laws. The justice must have jurisdiction of the parties and of the matter, or his interference is a trespass. But when he acts within his jurisdiction and by color of his office, he is not responsible in a civil suit for his acts. An action lies against him only when he has acted from corrupt or malicious motives. He may be impeached, and in some states removed by petition and hearing of the charges made against him before a higher court. A justice must keep a record of his proceedings, and may adjourn his court from day to day. The pleadings before him are, for the benefit of suitors, treated with great liberality.—In the decree for the reorganization of the judicial system of France (Aug. 24, 1790) *juges de paix* were created in imitation of the English officers of the same name. They were to decide summarily, without expense to suitors and without

the intervention of counsel, affairs of slight importance, and especially those which involved disputed facts rather than contested points of law. The decree of Sept. 1791, concerning criminal procedure, invested the *juges de paix* with police functions; at a later period they were called to the presidency of those police tribunals which took cognizance of minor offences. Under the law of May 25, 1838, the French justices are empowered to decide finally in all causes purely personal, and involving no more than 100 francs, but subject to appeal in all such causes from 100 to 200 francs. With similar limitations they have jurisdiction in actions between landlords and tenants; in suits for damages to fields, fruits, and harvests; between laborers and their employers; and between servants or apprentices and their masters; and in civil suits for verbal defamation, and in those breaches of the peace and assaults which are not expressly provided for in the criminal law. Their decrees are subject to appeal in all possessory actions, in cases involving questions of boundaries, and in those arising out of the use of mill privileges and streams applied to irrigation. As officers of the judicial police and auxiliary to the prosecuting officer of the government (*procureur du roi*), they received informations and made examinations into charges of flagrant crime committed within their jurisdiction. These justices were required to hold at least two sittings a week, though they might at their election hear causes every day. They must decide at the first hearing, unless in exceptional cases.

JUSTIN (FLAVIUS ANICIUS JUSTINUS). I. Surnamed the Elder, Byzantine emperor, born of a family of barbarian peasants near Sardica, now Sophia in Bulgaria, in 450, died in 527. Too ambitious to follow the modest pursuits of his parents, he started with two other youths on foot for the capital to enter the army, and on account of his strength and stature was placed among the guards of the emperor Leo I. Under the following reigns of Zeno and Anastasius he emerged to wealth and honors. Having served in the Isaurian and Persian wars, and been promoted successively to the ranks of tribune, count, and general, and the dignity of senator, he was commander of the imperial guards at the time of the death of Anastasius (518). The eunuch Amantius, who then reigned in the court, being bent on setting one of his creatures, Theodatus, on the throne, intrusted an ample donative to Justin with which to gain the suffrage of the guards for his purpose. Justin employed the bribe in his own favor, and was proclaimed emperor at the age of 68. Brave, but ignorant, according to Procopius, even of the alphabet, he intrusted the questor Proclus with the affairs of the state, and adopted Justinian, his nephew and a native of his village, who, however, was educated in Constantinople. Amantius was executed on charges of conspiracy and heresy, Theodatus was murdered in prison, and Vitalian, a Gothic chief, who had become popular by his civil war against Anas-

tasius in defence of the orthodox faith, was treacherously murdered. Both Justin and his successor Justinian (during part of his reign) were defenders of the orthodox creed. II. The Younger, nephew of Justinian, succeeded him in 565, adopted Tiberius II. as co-emperor in 547, and died in 578. He was a man of good dispositions, but weak and sickly, and his reign was marked by numerous calamities, the greatest of which was the conquest of Italy by the Lombards under Alboin, after the removal of Narses, who had reconquered it from the Ostrogoths.

JUSTIN (JUSTINUS), a Latin historian, of uncertain date, and of whose personal history nothing is known. It is probable that he lived at Rome in the 8d or 4th century. He is the author of a work entitled *Historiarum Philippicarum Libri XLIV.*, founded on a lost work of Trogus Pompeius, a historian of the Augustan age. The original work, though professing to give only an account of the Macedonian monarchy, was hardly less than a universal history, and was of great value. Justin seems rather to have compiled selections from it than to have abridged it systematically, and his history contains a great variety of information that would not otherwise have been preserved, carelessly arranged, but written in a clear and sometimes elegant style. The latest editions are those of Frotscher (Leipzig, 1827) and Schwarz (Stuttgart, 1834-'6). The English translations are by Codrington (1664), Brown (1712), Bayley (1782), Clark (1782), and Turnbull (1746).

JUSTIN MARTYR (Ιουστίνος ὁ Μάρτυς), one of the earliest of the church fathers, born in Flavia Neapolis (Shechem), in Samaria, martyred at Rome under Marcus Aurelius about 165. The year of his birth is variously conjectured to be 89, 103, 114, or 118. In his youth he studied with enthusiasm the Greek systems of philosophy, and was successively a stoic, a peripatetic, and a Platonist. He relates that while meditating by the sea on the Platonio doctrine of ideas he met with an old man, of meek and venerable aspect, who proved to him that Plato, though the most illustrious of heathen philosophers, was ignorant of many things, and recommended to him the study of the Hebrew prophets. This conversation resulted in his conversion, and, though he retained the garb of a philosopher, he devoted himself to the propagation of his new faith and to defending by his writings the character and principles of the Christians. On a visit to Rome he was arraigned during the persecution under Marcus Aurelius, and when he refused to sacrifice to the gods was sentenced, according to one account, to be scourged and beheaded, and according to another to drink hemlock. His name appears in the calendar of both the Greek and Latin churches, and the church of San Lorenzo at Rome and that of the Jesuits at Eystadt both claim to possess his body. He was one of the first who sought to reconcile philosophy and Christianity. Among his works are a plea for the Christians addressed to the emperor Anto-

ninus Pius under the title of an apology, which is one of the most interesting remains of Christian antiquity; a second apology, addressed probably to Marcus Aurelius; and a dialogue, in which he maintains Christianity against the objections of Trypho, a Jew. Many other writings of doubtful authorship are attributed to him. The best edition of his complete works is that by Otto (8 vols., Jena, 1848-'50). His apologies were translated into English by Reeve (2 vols., 1809), and the dialogue with Trypho by Brown (1755).

JUSTINIAN I. (FLAVIUS ANICIUS JUSTINIANUS), surnamed the Great, a Byzantine emperor, born in 482 or 493 at Tauresium, a village near the ruins of Sardica, now Sophia in European Turkey, died Nov. 14, 565. He was the son of a poor Slavic family, but his elevation was promoted by his uncle, who after a life of military service ascended the throne of the Byzantine empire in 518, under the name of Justin I., and shortly before his death in 527 adopted his nephew as co-emperor at the request of the senate. Justinian, who on good grounds is suspected of having effectively aided in the commission of various crimes by which his uncle obtained and secured the imperial diadem, was possessed long before the decease of the latter of all power in the state, as well as of a large private fortune. He shared both his power and wealth with Theodora, a beautiful, crafty, and unscrupulous woman, the daughter of a keeper of wild beasts, who had been long known as a comedian and prostitute, and despised by the people of the capital as the vilest of her sex. Having married her in spite of all objections on the part of the court, he not only seated her on his throne, but also made her an equal colleague in the sovereignty of the empire; and her demoralizing, corrupting, and despotic influence remained powerful till her death in the 22d year of their reign. In the chief subjects of agitation which at that time distracted the empire, the questions of creed in the church and of color in the games of the charioteers in the hippodrome, Justinian and his wife were agreed in zealously supporting the orthodox and the blue parties. In the capital and most of the provinces heresy was totally powerless, but the faction of the greens was often able to resist by open violence the arrogance of their opponents and oppressors. In 532, after a fierce contest between the factions, in which Constantinople was almost laid in ashes, they momentarily combined their forces against the government, and proclaimed Hypatius, a nephew of the emperor Anastasius, emperor. The resolute spirit of Theodora and the faithful bravery of the general Belisarius triumphed. The blues returned to allegiance, the greens were crushed with dreadful slaughter, Hypatius and his principal accomplices were executed, and tranquillity was restored. Justinian now turned his chief attention to the external interests of his vast state. Purchasing at an immense sum a truce from Chosroes I. of Persia after a war

of a few years waged with varying success, he sent Belisarius with a fleet against Gelimer, who had usurped the sovereign power in the kingdom of the Vandals of Africa, and as an Arian ruler oppressed his Catholic subjects. The fleet sailed from Constantinople in June, 533, and after a voyage of 8 months the army disembarked in the vicinity of Carthage, and a series of victories soon brought that capital and the person of Gelimer himself into the power of the Byzantines. Gelimer was sent a captive to Constantinople, the kingdom of the Vandals destroyed, and the Arian worship suppressed. Calumniated at the court, however, the heroic conqueror had to vindicate his honor before his masters, but was allowed the honors of a triumph. The conquest of the province of Africa, to which was added that of the adjoining provinces, not only procured new influence and some strong stations in Spain, but also paved the way for the reestablishment of the Roman imperial power in Italy, where Athalaric, the profligate young grandson of Theodoric the Great, the founder of the Ostrogothic dominion, having died, his mother, the regent Amalasontha, for some time usurped the reins of power, but was soon murdered and succeeded by her unworthy colleague and 2d husband, Theodatus (535). Belisarius successively reduced Sicily, crossed over to Rhegium, and conquered Naples; Theodatus was deposed by his people and assassinated; Rome opened its gates to the army which fought in its name (536). Vitiges, the successor of Theodatus, tried in vain to reconquer that metropolis, and soon had to take refuge in the morasses and within the walls of Ravenna, which was reduced by the arms and diplomatic skill of the imperial general (539). But Justinian again listened to the voice of envy, and recalled the conqueror, who readily obeyed. As Chosroes had broken the truce and invaded Syria (540), Belisarius was sent against him, and in two successive campaigns, without striking a blow, induced the enemy to return to his own dominions. After a short disgrace, he was again sent to Italy, but without an army, to restore the fortunes of the war, which had been renewed there by the new king of the Goths, the brave Totila. The latter had nearly reconquered the whole country, and Rome was besieged. Belisarius made a vain attempt to relieve it; the city was taken, and was to be destroyed (546), when the conqueror yielded to the remonstrances of his antagonist, who soon after reoccupied and fortified the deserted metropolis of the world. Ignoble intrigues, however, again checked Belisarius in his movements, and finally deprived him of his command (548). Totila again took Rome (549). Justinian, however, found another great general in the eunuch Narses, and in 552 once more received the keys of the ancient capital, which in his reign had been 5 times taken and recovered. Totila had fallen in the battle near its gates, and his successor, Teias, the last of the Ostrogothic kings, shared the same fate in the following year.

Another great victory of Narses over the Franks and Alemanni, who then invaded Italy, secured the possession of that country, which he governed as exarch, residing in Ravenna. Belisarius ended his military career by saving Constantinople from an invasion of Bulgarians and Slavi (559). In the East, Justinian terminated a protracted war with the Persians about the possession of Colchis or Lazica by a peace (561), in which Chosroes extorted the ignominious promise of an annual tribute. The northern frontiers of the empire were in part secured against the invasions of the barbarians by similar treaties, and a vast line of fortifications, especially along the Danube, was added from a feeling of precaution which the degeneracy of the empire made but too natural. The imperial armies themselves consisted mainly of barbarian hirelings. In the interior the reign of Justinian was marked by tyranny, extortion, and lavish expenditure, especially in the erection of sumptuous buildings, of which the rebuilt church of St. Sophia was the most magnificent; by a continual meddling in the affairs of the church, and the severe persecution of heretics, Samaritans, Jews, and pagans, involving the dissolution of the Athenian schools of philosophy; and by uninterrupted intrigues at the court, which, among others, finally succeeded in ruining Belisarius. Justinian, however, who was fond of studies as well as of arts, has the great merit of having, through Tribonian and other lawyers, prepared that code of Roman laws which bears his name and is the great monument of his reign. (See CIVIL LAW.) The introduction of silkworms from China through some missionaries, who brought the eggs of the useful insects in hollow sticks, is another of its lasting merits. Justinian was patient, frugal, and diligent, but vain, selfish, and ungrateful. "He was neither beloved in his life nor regretted at his death."

JUTE, a fibrous material, described as a grass, in appearance like a coarse flax, exported from the East Indies for the manufacture of mats and carpets. It is used of the natural color and also dyed. In and about Dundee, Scotland, there are 76 mills engaged in spinning jute and flax, one of which is the largest mill in Scotland, employing 2,000 hands in working jute alone. The raw material costs only about 11s. per cwt.; the carpets sell for 7d. to 11d. per yard, and the mats at about 8s. each. The fibre is soft, silky, and easily spun, but lacks strength, and moreover is liable to decay rapidly, particularly if exposed to dampness. The exportations of this article from Calcutta alone amounted in the years 1850 and 1851 to the value of £200,000; and the annual consumption in England is estimated at 100,000 bales, valued at £20 each. It is made into "bagging" for cotton bales, and finally finds its way to the paper mills for the manufacture of coarse wrapping papers. The finer fibres, resembling caterpillars' thread, are used to adulterate silk.

JUTECALPA, a town of Honduras, capital of the department of Olancho; pop. 4,500. It

is the centre of a large cattle-growing and gold-washing district, and some of its inhabitants are engaged in mahogany cuttings on the rivers Roman, Patuca, &c., which rise in its vicinity and flow N. into the bay of Honduras. About \$150,000 in gold dust, 80,000 hides, and a considerable quantity of liquidamber, are sent abroad annually from this town. Large droves of cattle are also driven thence into the republics of San Salvador and Guatemala. Far removed from the centres of political strife, it has suffered less than any other Central American town from the partisan contests of the country.

JUTLAND (Dan. *Jylland*), an irregular peninsula, forming the chief part of the kingdom of Denmark, bounded N. by the Skager Rack, E. by the Cattegat, the Little Belt, and the Baltic, S. by Holstein, and W. by the North sea. It comprises the circle or province of North Jutland or Jutland proper, and the duchy of Schleswig, sometimes called South Jutland. It is the ancient Chersonesus Cimbrica, and the country of the Jutes. The Jutes were a Teutonic or Scandinavian tribe, of whose presence in this quarter we have evidence as early as the 5th century. According to Mannert, they were identical in race with the Guthi of Ptolemy, and came from the opposite Scandinavian coast. They were the earliest Germanic invaders of Britain after the departure of the Romans. —The circle of Jutland lies between lat. 55° 28' and 57° 44' N., long. 8° 5' and 10° 57' E.; area, 9,696 sq. m.; pop. in 1858, 646,287, all Danes excepting a few German settlers. It is divided into 4 dioceses or districts, which are subdivided into 10 bailiwicks. The capital is Viborg. The N. and part of the W. coast are low, flat, and sandy, presenting long lines of dangerous banks, broken on the W. by several large fiords which may be said to form lagoons. The E. shores are more rocky and have some good harbors. The Lym fiord entirely insulates the N. part of the circle. There are many ponds and marshes scattered over the surface, but few rivers. The largest streams are the Guden, which flows into the Cattegat, the Lonborg, which enters the Ringkøbing fiord, and the Kolding and Konge, which separate Jutland from Schleswig. There are no mountains, and the hills are little more than accumulations of sand, seldom exceeding 100 feet in height. The soil on the E. and W. is fertile, but the central districts are sandy and sterile, and the N. coast is covered with drifting sands, which are planted with reeds to prevent them from being borne by the wind over the cultivated lands. On the E. there are some groves of oak, fir, and birch, but the province has been nearly stripped of its timber. Agriculture is in a very low state, but efforts have been made with some success to improve it. The industry of the inhabitants is directed chiefly to husbandry, the coast fisheries, and domestic manufactures. There are manufactories of woollen goods, fire-arms, and earthenware. Commerce is active, and is much facili-

tated by the long floods. The principal commercial emporium is Aarhus. The construction of the Jutland railway was conceded to Sir Morton Peto by an act of the legislature, March 4, 1887, which was ratified by the king of Denmark in 1889. It is to connect Aarhus with Holstebro via Viborg, with a branch to Randers.

JUVENAL (JUVENALIS), DECIMUS JUNIUS, a Roman satirical poet, flourished in the latter part of the 1st century A. D. and in the 1st quarter of the 2d. The only certain facts in his personal history are that Aquinum was either the place of his nativity or his chosen residence, and that he was an intimate friend of the poet Martial, who addresses him in three of his epigrams. According to the oldest memoir of him, which is ascribed with little probability to Suetonius, he was either the son or the *alumnus* of a wealthy freedman, occupied himself till middle age as a pleader, was led to devote himself to satirical composition by the success of some verses which he wrote upon a pantomimist named Paris, after much hesitation recited his satires before numerous audiences, which were received with so much favor that he ventured to insert in one of them his attack on Paris, which was construed into an attack on an actor at that time in high favor at court, and was therefore, though 80 years of age, appointed to command a cohort of infantry in Egypt, and died after a short time of vexation and grief in this honorable exile. The pantomimist Paris, a favorite of Domitian, was put to death in A. D. 83; and as it is established that one of the satires of Juvenal was written not earlier than 96 and another not earlier than 100, he could not have been sent to Egypt in the lifetime of Paris, unless he afterward returned, in which case it is strange that his works contain no allusion to his exile. The story of his banishment is therefore questioned by some critics. Juvenal disputes with Horace the honor of being the greatest Roman satirist. Living amid the vices of a declining state, under the

tyranny of Nero and Domitian, and seeing the humiliation of his countrymen, his compositions are much more purposely and formally severe than the easy and good-humored satires of Horace. Each of them is an elaborate and sonorous piece of declamation, which confirms the statement of some of his biographers that in youth he diligently attended the schools of the rhetoricians, and that he was accustomed to declaim at the forum during many years of his life. His extant works are 15 satires, and a fragment of doubtful authenticity, all in heroic hexameters. There are numerous very early editions, 6 of which may claim to be the *princeps*. Among the most complete editions are those of Rupert (Leipsic, 1819) and Heinrich (Bonn, 1839). The English translators are Holyday, Stappylton, Dryden (of 5 satires), Gifford, Hodgson, Badham, and Evans.

JUXON, WILLIAM, an English prelate, archbishop of Canterbury, born in Chichester in 1582, died June 4, 1683. He was educated on the foundation of the merchant tailors' school, and of St. John's college, Oxford, of which he became a fellow in 1598. Originally destined for the law, he studied theology, and became vicar of St. Giles's, Oxford, in 1609, and rector of Somerton in 1614. He was president of his college in 1621, and vice-chancellor in 1626 and 1627. He became successively dean of Worcester and prebendary of Chichester, bishop of Hereford, and in the same year, 1683, bishop of London. In 1635 he was appointed lord high treasurer, but earnestly solicited leave to resign the office in 1640, and returned to the charge of his diocese. He was a prelate of great learning and piety, and was devotedly attached to the king, whom he attended in the isle of Wight, at his trial, and to the last upon the scaffold. After the king's execution, he was deprived of his bishopric, and imprisoned for a short time for refusing to disclose his last conversation with the king. After the restoration he was made archbishop of Canterbury in 1660.

K

K the 11th letter of the Phœnician and other Semitic graphic systems, named *kaph* (hollow of the hand, curved), is also the 11th of many European alphabets, although the letters preceding it do not exactly coincide in both systems. It is the 10th (*καρρα*) in Greek. In ancient Latin, as long as O was used as the sign of G, it was the 9th; but after the innovation of O for the hard guttural in all positions, and the introduction of G as its corresponding soft guttural, it became the 10th letter, though merely in a few abbreviations, such as K. for *Cæso*, *kal.* for *calenda*, &c. It is erroneously said to be the 11th in most modern Latin grammars. (See G, and J.) Sallust, a grammarian of Rome, attributes its introduction into the Latin to

one Salvius. Quintilian denies it a place in the Latin, and blames its use even before *a*, as in *kalenda*, *kalumnia*, although it was burnt in upon the forehead of slanderers. According to Scaurus, K was anciently used instead of the syllable *ca*, O instead of *ca*, *ci*; and according to Velius Longus, Q instead of *qu* or *cu*; and it is owing to this ancient usage that in our modern alphabets K is pronounced *kæ*; O, *ce* and *ci*, as if they were *ci* in French, *se* in English, *tehi* in Italian; and Q as *ku*. In hieroglyphs K was represented by the quadrant of a circle and by a flat basket with a handle. It is the 11th letter in Cufic, the 22d in Arabic, the 25th in Persian and Turkish, the 14th in Ethiopian, the 17th in Amharic; the 15th in Armenian, 11th

in Georgian, 14th in Cyrillic, 18th in Glagolitic, and 11th in Russian (*kako*). It was represented by *gu* in ancient French, in all positions, though in modern French only in *gue* and *qui*; while in the same language the K is maintained only in *kyrielle*, in some Greek words, such as *ky-nancie*, *kyate*, which are now more frequently written with *c*, in other foreign words, such as *kali*, *kino*, *knout*, and in proper nouns. Charlemagne's coins have most frequently *Carolus M.*; but the 6 Charleses who reigned after him in France used K in their names.—The sound of K is produced like that of G, with this difference, that the larynx does not oscillate during the sudden explosion of the sound. The congeneric sounds may be seen under G.—Some proper nouns are written either with K or Q; as, for instance, in German, Cammer, Carl, Cölln, or Kammer, &c.; or in French, Coran, Colocotroni, or Koran, &c. But the substitution of K for Kh in such names as Khalif, Khan, Kherson, Khiva, &c., which are also written Oban, Oherson, &c., is due to the want of letters which represent a deeply aspirated K, almost like the German *ch*, or Greek *χ*, and the 7th Arabic (9th Persian and Turkish) letter *kha*. The Devanagari *akshara kaccarga* (consonants guttural) contains *ka* and *kha*, *ga*, *gha*, where, however, the *h* is distinctly pronounced in the 2d and 4th, as in the English words *inkhorn*, *stronghold*. The English habit of not pronouncing both *k* and *g* in *kn*, *gn* (as in *know*, *gnaw*), destroys the significant element of the words, depriving them of the roots *ken*, *cut*, &c. This improper practice was carried even further in Latin, where the *g* was not even written in most words which begin with *n*, such as *natura*, *noseo*, *novus*, originally *genitura*, *γενεα*, *gnocus*. In German, *ek* is written for *kk* (in Polish it is pronounced *tek*, as in Potocki), and the initial *k* before consonants is frequently the hardened particle *ge* deprived of *e*, as in the words *Knacht*, servant, from *ge-nacht*, bent, subject to; and *klug*, prudent, from *ge-lug*, looking out. K alternates in the Semitic languages with *g*, *q*, *h*, *kh*, *ghain*; and in the Indo-European as well as most others with those letters, and with *c*, *j*, *y*, *w*. One example may suffice, wherein the root *kr*, as *car-us* and *cur-a* in Latin, runs through the following forms, conveying in all the radical idea contained in these Latin words: *kort-us*, *gard-en*, Ital. *giard-ino*, French and Spanish *jard-in*, Magyar *kort*, Slavic *ogrod*, *za-krad-a*; with the kindred words *yard*, *ward*, *guard*, &c., to which several hundreds of similar radical import might easily be added.—As a numeral sign, K denotes 20 in the Semitic, Greek, Georgian, and Cyrillic (and hence in the Russian) systems; 40 in the Glagolitic; 60 in the Armenian; 250 (along with E) in the period of Rome's decline. A dash over it raises these values to as many thousands. In rubrication it marks 10. On Roman coins and other monuments it stands for *Kaiser*, *Karthago*, *Kaput*, and many other words beginning with *Ca* in the later Latin; K. S., *carus suis*, &c. On

French coins it designates Bordeaux; on those of Austria K. B. signify Kőrmöcs-Bánya or Kremnitz mine.

KABYLES. See ALGERIA.

KACHIQUEL; or KACHIQUEL, one of the principal aboriginal families of Central America, and with the Quichés and Zutugils constituting what were called the three metropolitan nations of Guatemala. They occupied the region surrounding the great volcanoes of Agua and Fuego, and the ancient city of Guatemala was founded not far from their capital, to the southward of the Zutugils, or, as they were called by the Mexicans, the Atilanenses. After the conquest of the affiliated nations of the Quichés and Zutugils, the Kachiquel kings sent presents to Alvarado, and submitted without a contest to the Spanish authority. They afterward gave him a large body of auxiliaries for his expedition against the Pipils of Cuscatlan or San Salvador. Their language was a principal dialect of the Tzendal, with which the Maya of Yucatan and all the languages of Guatemala were more or less intimately related. It is still spoken. Father Ildefonso Joseph Flores published a grammar of this language entitled *Arte de la lengua metropolitana del reyno Cakchiquel ó Guatemala* (Guatemala, 1758). A dictionary of the language, entitled *Compendio de nombres en lengua Kachiquel*, by Fray Panteleon de Guzman (1701), exists in MS. in possession of Mr. E. G. Squier of New York. There is another, date and author unknown, in the imperial library of Paris.

KAFFA, or KAYA, a country of E. Africa, lying S. of Abyssinia, and bounded W. by unexplored regions. It consists of an extensive table-land, between two branches of the river Gojeb, at an elevation of about 5,000 feet above the sea. The country is under the sway of an absolute king, or *tata*, who it is said can raise 10,000 horsemen, and who is frequently at war with his neighbors. The inhabitants are of an Abyssinian type, and profess to be Christians; their language belongs to the Hamitic group of tongues. They cultivate the soil, which is fertile in palms, cotton, and coffee. Trade is carried on with the merchants of Enarea, who exchange rock salt, copper, horses, cattle, and silks for coffee, cotton, and slaves. Coffee is indigenous, as is a species of tea plant called *khat*. M. d'Abbadie, a French traveller, in 1843, was the first European who penetrated into the country. The chief town is Bonga, lat. 7° 12' 30" N., long. 36° 4' E.; it contains 6,000 to 7,000 inhabitants.

KAFFA, CAFFA, or FEODOSIA (Theodosia), a Russian seaport of the Crimea, built under the shelter of a cape at the W. angle of a wide, open bay of the Black sea, lat. 45° 1' 37" N., long. 35° 23' 37" E.; pop. about 8,000, exclusive of the garrison. The inhabitants, consisting of Russians, Tartars, Greeks, Armenians, Germans, and Jews, are mostly engaged in fishing and the manufacture of salt. Caviare is made there. Wool and hides are exported. This place is the proposed terminus of the railroad from St.

Petersburg. It is the seat of a Greek archbishop, and has, beside Greek churches, a Roman Catholic church, 2 synagogues, 2 mosques, a public library, museum, botanic garden, theatre, custom house, and quarantine buildings. It is near the site of the ancient Theodosia, which was founded by the Milesians, and was one of the towns of the ancient kingdom of Bosphorus. The Genoese established a colony here in the 13th century A. D. In the latter half of the 15th century it was taken from them by the Turks, from whom it was captured by the Russians in 1770.

KAIRWAN, KAIRVAN, or EL KIRWAN, the 2d city of Tunis, 80 m. S. S. E. from the city of Tunis, and 27 m. S. W. from Soosa, built on a sandy plain, in lat. $35^{\circ} 37' N.$, long. $10^{\circ} 15' E.$; pop. estimated at 50,000. The city is surrounded by a low wall with 4 gates. It is the entrepot of a large general commerce, and its manufactures of yellow morocco boots and slippers are celebrated. The great mosque of Kairwan is a large and magnificent edifice; its roof is said to be supported by 500 columns of granite. The city was founded by the Arabs about A. D. 670, and was from 802 to 970 the capital of their independent African dominions.

KAISAREEYEH, or KAISARIAH, a commercial city, capital of a district of the same name, in the Turkish province of Anatolia, 150 m. E. N. E. from Konieh, situated in a recess of the Arjish mountain, at an elevation of 3,286 feet above the sea, in lat. $38^{\circ} 41' N.$, long. $35^{\circ} 45' E.$; pop. about 80,000. An extensive plain, watered by the river Karasu, and fertile in cotton, fruits, and wine, stretches N. from the hills. The town is mean and dirty, but is the emporium of an extensive export trade. The chief industry is the manufacture of cotton yarn, cloth, and yellow morocco leather. This place, anciently called Mazaca, was the capital of Cappadocia until that country was formed into a Roman province, when the name of the city was changed to Cæsarea (whence its modern name), under which latter appellation it gave title to a Christian bishop from the early times of the church. St. Basil the Great was born and is buried here.

KAKODYLE, or CACODYLE ($2O, H, As = O, H, As$), a coupled compound of arsenic and methyle, expressed by the name arseniodimethyle. The substance is a highly poisonous liquid, heavier than water, gives forth vapors of specific gravity 7.1, which have a most disgusting odor, and takes fire spontaneously on exposure to the air. It boils at 338° , and solidifies in square prisms at 21° ; it is soluble in alcohol or ether, but scarcely so in water. It unites as a base directly with oxygen, and probably with sulphur and chlorine also; and it furnished the first instance of the isolation of an organic metallic basyle. It is obtained by decomposing its chloride by granulated zinc, or its sulphuret by means of mercury. The preparation of the compounds of kakodyle is difficult and dangerous. The oxide obtained by distilling

equal parts of dried acetate of potash and arsenious acid is an impure quality of the fœtid liquid formerly known as Cadet's fuming liquor or alkarsine, which inflames spontaneously on exposure to the air.

KALAFAT, a walled town of Turkey in Europe, in Little Wallachia, on the left bank of the Danube opposite Widin, 370 m. N. W. from Constantinople. It contains 2,000 houses, 3 mosques, a town hall, a custom house, a quarantine, and cavalry barracks. The town is built on a plain of the same name, skirted by hills. Its fortifications describe an arc of a circle around the town, the Danube forming the chord. Kalafat is a quarantine station. It is important in a strategetic point of view, and has figured more than once in Turkish military annals. Here the Russians, in 1829, lost 10,000 men in their operations against the Turks. A communication with Widin was established in Oct. 1853, by means of a floating bridge, for the purpose of forming a communication between the left wing of the Turkish army under Omer Pasha garrisoned in Widin, and the fortified works thrown up around Kalafat as a defence against the Russians. An engagement took place there, Jan. 6, 1854, and an assault of the Russians was gallantly repulsed by the Turks on April 19.

KALAMATA, capital of the Grecian province of Messenia, about 1 m. from the gulf of Koron in the S. of the Peloponnesus; pop. about 6,000. It is supposed to be built on the site of Phæræ, one of the maritime cities in the time of the Trojan war. During the crusades it was one of the most important places of the Peloponnesus. It was subsequently annexed to the possessions of Venice. It passed into the hands of the Turks at the beginning of the 18th century. It was among the first towns delivered by the Greeks in 1821, and the first where a Grecian legislative assembly was convened. In 1825 it suffered from the attack of the Egyptians under Ibrahim Pasha, but the damage then inflicted upon the town has been gradually repaired.

KALAMAZOO. I. A S. W. co. of the S. peninsula of Mich., drained by Kalamazoo and St. Joseph's rivers; area, 576 sq. m.; pop. in 1850, 13,179. The surface is level or undulating, and occupied by rich prairies, fertile plains dotted with oak timber, and thick forests. The productions in 1850 were 366,578 bushels of Indian corn, 225,855 of wheat, 97,325 of oats, 106,913 of potatoes, 11,736 tons of hay, and 94,750 lbs. of wool. There were 10 grist mills, 12 saw mills, 15 churches, 2 newspaper offices, and 4,184 pupils attending public schools. Capital, Kalamazoo. II. A river of Michigan, which rises in Hillsdale co. in the S. part of the state, and after a circuitous course of nearly 200 m. flows into Lake Michigan, 98 m. in a direct line from its source. Its general direction is W. N. W. It is 300 or 400 feet wide at its mouth, and navigable at all seasons by vessels of 50 tons to Allegan, 38 m. from the lake. It drains a rich level country, affording extensive water power.

III. A city of Michigan and the capital of Kalamazoo co., situated on the left or W. bank of the river of the same name, about 65 m. from its mouth, 50 m. S. from Grand Rapids, and 143 m. W. from Detroit by the Michigan central railroad, which connects it with that city and Chicago; pop. in 1850, 3,284; in 1859, about 8,000. It is pleasantly situated, in the midst of a beautiful and fertile country, and is regularly built with broad streets shaded by fine oak trees. It is the seat of Kalamazoo college, for students of both sexes, the Michigan female seminary, the Michigan asylum for the insane, a union school, and various other institutions. It has two weekly newspapers, and in 1859 contained 10 churches (2 Baptist, 2 Congregational, 1 Dutch Reformed, 1 Episcopal, 2 Methodist, 1 Presbyterian, and 1 Roman Catholic), 1 flour mill, 1 iron foundry, 1 machine shop, 3 manufactories of agricultural implements, 1 of pianofortes, 1 of soap and candles, 1 tannery, and 8 planing mills.

KALARASH, a small town in the Turkish province of Wallachia, on the left branch of the Danube, opposite Siliustria, with trade in grain and produce. It is noted for several military engagements which took place there during the war of 1854, particularly on March 4, when the Russians, who were intrenched in the place, repulsed the Turkish forces.

KALB, JOHN, BARON DE. See DE KALB.

KALEIDOSCOPE (Gr. *kaleos*, beautiful, *eidos*, a form, and *σκοπεω*, to see), an optical instrument for multiplying the reflected images of small colored objects, producing by the symmetry of their arrangement patterns of great beauty, which have served to furnish designs for carpets and other ornamental fabrics. An instrument on this principle was originally described by Baptista Porta and Kircher; and in a work by R. Bradley published in England in 1717, entitled "New Improvement of Planting and Gardening," it was recommended for aiding in the production of designs for garden plots and fortifications. Its true principles were first developed, however, by Sir David Brewster, who devised the proper method of its construction, and in 1817 took out a patent for the same. But before he could secure the benefit of the patent, the London opticians had produced some 200,000 instruments, which they distributed everywhere as toys. Nearly all these were exceedingly defective from the total disregard in their construction of the exact principles upon which the perfection of the instrument depends.—When two oblong mirrors of the same dimensions are placed so as to hinge together along an edge of each, their reflecting surfaces facing each other, and are then opened, so as to make an angle which is an aliquot part of 180°, an object placed between the planes of the mirrors, or in contact with one of the extremities of the pair, is reflected from one mirror to the other, and produces as many images as the angle of the opening is contained in 360°. These images are arranged in symmetrical or-

der around a circular area, the radius of which is the width of the mirror, and the centre the point of meeting of the two planes. The perfect symmetry of their arrangement depends on the angle of the opening being an aliquot part of two right angles, and that usually employed is either 18° or 20°. Another requisite for the perfection of the instrument is, that the line of junction of the two mirrors should be fine and smooth, as any irregularities would produce imperfections. As usually constructed, the mirrors are strips of glass blackened on one side with black varnish or sealing wax, 8 or 10 inches long, 1 to 1½ inches broad at one end, and only about half as wide at the other. They are kept together by a piece of cloth glued over the edges in contact, and the proper angle is preserved by securing them in a tube of tin or pasteboard by pieces of cork of suitable shape wedged in behind them. The open side of the triangular prism formed by the two mirrors is closed by a strip of black velvet of suitable width glued to the backs of the two mirrors. The cylindrical tube is of the diameter of the larger end of the prism, and the angle formed by the meeting of the two planes at the other extremity is nearly coincident with the centre of the circular end of the tube. Through the cover of this a small aperture is made exactly in the angle, to which the eye is to be applied in using the instrument. At the other extremity a plain disk of thin transparent glass is fitted close to the ends of the mirrors, and outside of this is another disk of the same size of glass slightly ground, the two kept $\frac{1}{4}$ or $\frac{1}{8}$ of an inch apart by a ring of this thickness set in between them. In the intervening space the objects to be reflected are placed. These may be small fragments of colored transparent glass intermixed with a variety of other small bright objects of diverse forms, as beads and spun wire of glass and of metal, bits of lace, figures and letters, circles, ovals, and triangles, pieces of indurated Canada balsam, varnish, &c. But care must be taken not to fill the case too full for the objects to move freely among themselves while the tube is made to turn in the hand upon its axis. By looking into the circular aperture made for the eye, the most gorgeous figures are perceived symmetrically arranged, and all forming one complete pattern.—Kaleidoscopes are also made with 3, 4, 5, or more mirrors, and are then termed polycentral. To produce symmetry and regularity of form in the images of these kaleidoscopes, the angles which the mirrors make with each other must necessarily be aliquot parts of 180°; and as their number is increased, the range of the instrument in the variation of these angles is diminished. Thus 3 mirrors only should be arranged to make the 3 angles of 60° each, or two of 45° each and one of 90°, or one of 30°, one of 60°, and one of 90°. By the first arrangement the images appear in groups of 3 repeated throughout the pattern. This instrument is called the triascope. By the 2d arrangement, the instrument, called the tet-

rascope, produces a pattern divided into square compartments. By the 3d arrangement, the pattern, of hexagonal form, presents a remarkable symmetry, and the instrument is termed a hexascope. The last two forms are especially useful to the draughtsman.—Sir David Brewster substituted a double convex lens for the two glass disks in order to adapt the instrument for receiving and multiplying the images of external objects. He also introduced a variety of modified forms and methods of using it, an account of which may be found in his "Treatise on the Kaleidoscope," and in his later "Treatise on Optics." See also "Harris's "Treatise on Optics;" Dr. Roget "On the Kaleidoscope;" "Annals of Philosophy," vol. xi.; *Compte rendu des travaux de l'Académie de Dijon* (1818).

KALEVALA, the national epic of Finland. See FINLAND.

KALIDASA, one of the greatest Indian poets, lived, according to tradition, at the court of King Vitramaditja, in the 1st century B. C. He was one of 9 poets who were called the 9 precious stones of the court. Vitramaditja (sun of strength) is a title given to several Indian monarchs, and many scholars believe Kalidasa to have flourished in the 11th century A. D. at the court of King Bhoja. The works attributed to him are so various that the existence of several poets of his name at different periods has been supposed. His best production is the drama *Sakuntala*, which was translated into English by Sir William Jones in 1789, and immediately excited in Europe a lively interest in Sanscrit literature. It was translated into German by Forster (1790) and Herder (1808), and into French by Chézy (published with the Sanscrit original, 1830). He is the author also of the drama *Vikramorvasi* (translated into English by H. H. Wilson; published with a Latin translation by Lentz, Berlin, 1838); the comedy "Malavika and Agnimitra" (published with a Latin translation by Fallberg, Bonn, 1840); the epical poem *Raghu-Vansa* (published in Sanscrit and Latin by Stenzler, London, 1832); the *Kamara-Sambhava* (also edited by Stenzler, London, 1838); the *Megha-Duta*, or "Cloud Messenger" (translated into English verse by H. H. Wilson, Calcutta, 1813, and London, 1843); and several other dramatic and lyrical pieces.

KALISZ (Germ. *Kalisch*, anc. *Calisia*), one of the oldest towns of Russian Poland, formerly the capital of a palatinate and subsequently of a government of its name, now of a circle in the government of Warsaw, situated between two branches of the Prosna, on the Prussian frontier; pop. about 15,000, one fifth of whom are Jews. It is the see of a Roman Catholic bishop, was conspicuous during the wars of the Polish and Silesian princes in the middle ages, and was taken in 1656 by the Swedes. The Russians gained a victory here over Charles XII. in 1706, and over the French in Feb. 1813. A few days after the latter event an alliance was formed here between the czar Alexander and the king of Prussia, Frederic William III.

KALKBRENNER, CHRISTIAN, a German composer, of Jewish extraction, born in Minden, Sept. 22, 1755, died in Paris, Aug. 10, 1806. He was a number of years in the service of Prince Henry of Prussia, the brother of Frederic the Great, as composer; and subsequently he officiated as singing master in the academy of music in Paris. He is the author of a number of operas and pianoforte pieces, and of a history of music, not completed at his death, which is considered valuable authority on whatever relates to Hebrew and Greek music.—**FRIEDRICH**, son of the preceding, born in Cassel in 1788, died in Enghien-les-Bains, near Paris, June 10, 1849. His musical education commenced at an early age, and was completed in Paris, where in 1802 he gained two prizes at the *conservatoire*. As a pianoforte performer he was one of the most eminent of his time, and his compositions for that instrument are still in great estimation. During several years he resided in England as a teacher, but in 1823 fixed himself permanently in Paris. Among his published works are many pieces of chamber music for a variety of instruments. He also arranged the symphonies of Beethoven for the pianoforte.

KALM, PETER, a Swedish botanist, born in Osterbotten in 1715, died in Abo, Nov. 16, 1779. He was educated at Upsal, and on the suggestion of Linnæus he was selected in 1745 by the Swedish government to make a botanical tour of North America. He arrived in Philadelphia in the summer of 1748, and remained in America till 1751, travelling and gathering specimens of plants in Canada, New York, and Pennsylvania. On returning to Sweden he published *En resa til Norra Amerika* (3 vols., Stockholm, 1758-'61), translated into English by John Reinholdt Forster under the title of "Travels in North America" (2d ed., 2 vols., London, 1772); it was also translated into German and Dutch. He was made professor of natural history at Abo. The beautiful evergreen shrub *Kalmia* is named after him.

KALMIA, a genus of flowering shrubs peculiarly North American, and belonging to the natural order of *ericaceæ*. They are all handsome evergreen-leaved shrubs, of which the mountain laurel (*K. latifolia*) is a familiar and conspicuous instance. This fine shrub, almost a tree, in favorable situations attaining to from 15 to 20 feet, may be found upon rocky hills and in damp soils, from Maine to Ohio and Kentucky. Its foliage is of a bright green color, the leaves being mostly alternate, ovate-lanceolate, or elliptical and petioled. Its flowers are borne in terminal corymbs of considerable size, and made up of rose-colored or white blossoms so clammy-pubescent as to adhere to each other when incautiously plucked. The mingled deep green and rosy colors of this bush have gained it the trivial name of calico bush. The wood of the mountain laurel is very smooth, close-grained, and hard; that of the root is marked with red lines; it is well adapted to the turner's use for

making small ornamental articles. As a fine shrub for the garden, this species is much prized; and it readily adapts itself to artificial culture. The plants should be removed when about expanding their flowers, and if this is done with care, and they are shaded and protected for the remainder of the season, they will soon establish themselves in a spot properly prepared for their future growth. The flower buds are formed at the end of the summer before they expand, and branches bearing them, if broken off and kept deeply plunged in fresh and pure water in some warm room, will blossom toward the end of winter. There is a species known as the sheep laurel (*K. angustifolia*, Linn.), having leaves in threes, which are of a light green color above and paler or whitish underneath; the flowers appear in lateral corymbs owing to the new growth of the young terminal shoots; these flowers are small, but of a deep crimson tint and very beautiful. The shrub is only 2 or 3 feet high. This species ranges from Hudson's bay to Georgia. Its leaves are generally considered injurious to lambs, a quality attributed to the mountain laurel also; but perhaps in both instances it is owing more to the indigestible quality of such food than to any really harmful property. The pale laurel (*K. glauca*, Aiton) is a small and straggling shrub about one foot high, having 2-edged twigs and opposite leaves, which are of a bright color above and of a beautiful glaucous white beneath, with the margins revolute. The flowers, each half an inch in breadth, are borne in terminal corymbs upon thread-like footstalks, the corolla being of a pale rosy color with brown anthers, and expanding in July. This beautiful species grows in cold, boggy swamps, ranging from the arctic circle through Canada to Pennsylvania. A species a foot high, with terete branches, oblong leaves, and rose-colored corolla, blossoming from May to September, is known as the hirsute laurel (*K. hirsuta*, Walter), and is to be met with in sandy pine-barren swamps in eastern Virginia and southward. Elliott, in his "Sketch of the Botany of Georgia and South Carolina," describes this as a small shrub, branching, very hairy, with handsome but solitary flowers, so that the species is not so ornamental as its congeners. The kalmias are regarded by florists as shrubs of easy culture in peaty soils, and can be propagated by layers, seeds, or cuttings. The leaves of *K. latifolia* and other species are beneficially employed, either in decoction or powdered, in scabies, porrigo, and other diseases of the skin.

KALMIA, a small scattered village, or settlement, in Edgfield district, S. C., locally famous for its production of fine fruits, peaches, grapes, &c.; the whole neighborhood being remarkable for the excellence of its fruits, the degree in which the grape has been cultivated to perfection, and the increasing quantities of good wine which are annually produced. The scenery is undulating and attractive; the climate singularly salubrious, and especially commended to consumptives. It is a favorite retreat for many of

the wealthy citizens of Charleston. Graniteville, known as one of the largest and most prosperous of the cotton manufacturing establishments of the South, lies within this precinct, and constitutes, itself, a village of much prosperity and beauty.

KALOOGA, or KALUGA, a government of European Russia, between lat. 53° 20' and 55° 20' N., long. 88° 20' and 87° E., bounded W. and N. by Smolensk, N. and N. E. by Moscow, E. by Tula, and S. by Orel; area about 12,178 sq. m.; pop. in 1856, 1,006,671. The surface is in general very level. It is watered by numerous rivers, the principal of which is the Oka. The soil is of a sandy or strong clayey nature, and only moderately fertile. More than half of this province is under forest. The climate is one of the mildest in Russia. Iron, coal, chalk, and gypsum are found. Woollens, linens, sail cloth, &c., are manufactured.—KALOOGA, the capital of this government, stands on the left bank of the Oka, 95 m. S. W. from Moscow; pop. 81,000. It is irregularly built, being 7 m. in circumference, though not containing more than 4,000 houses, chiefly of wood. It is surrounded by a rampart which has been converted into a public promenade. It contains 83 churches, a theological college, nunnery, hospital, gymnasium, government house, orphan asylum, public library, and theatre. It is a place of considerable trade, and the chief seat of the manufactures of the province. A commercial bank was founded there by a public-spirited citizen in 1859, the profits to be applied to charitable purposes. Political offenders of high rank have been banished to Kalooga for many years past. Schamyl, the Caucasian chieftain, was removed there in 1859.

KAMA, a river of Russia, the principal affluent of the Volga, rises in a branch of the Ural mountains in the N. part of the government of Viatka, runs first N. and N. E., then takes a S. W. direction through the governments of Perm and Kasan, forming intermediately the boundary between Viatka and Orenburg, and joins the Volga, after a course of over 1,000 m., 40 m. from the city of Kasan, almost doubling the volume of the Volga. It receives in its course the tributary rivers Vishera, Tchussovaya, Bielaya, and Ik, on the left, and the Obva and Viatka on the right. The Kama is navigated by barges to Perm, and by flat boats much higher. Its waters at Perm have a depth of 23 feet less at the end of summer than in the freabets of spring. It is connected with the Dwina by a canal 12 m. long, thus establishing water communication between the Caspian and White seas.—KAMA is also the name of a district of British Caffraria, which in 1858 contained a population of 9,850 natives, and of 68 Europeans, exclusive of the English garrison.

KAMEHAMEHA (or TAMEHAMEHA) I., the first king of the Sandwich islands, born in the middle of the 18th, died in the beginning of the 19th century. Toward the end of the 18th century each of the different islands was gov-

erned by a sovereign and by several other chiefs. Kamehameha was one of the latter, and succeeded by his superior energy and ability in subduing all the islands excepting Atatau and Nihau, which however gave their allegiance to his successor. As Europeans had aided him in his conquest, he favored their settlement in the islands, and placed his kingdom under the protection of England. He was succeeded by his son KAMEHAMEHA II., who abolished idolatry and introduced Christianity (1819). He visited England with his wife, where both died in 1824. His brother, KAMEHAMEHA III., born in 1817, succeeded him. During his reign the Roman Catholic missionaries were banished in 1837. The French admiral Du Petit-Thomas protested against this measure on behalf of his government, and his interference led the king to a formal declaration of the independence of the Sandwich islands (1840). In 1842 Du Petit-Thomas renewed his interposition in favor of the Roman Catholic missionaries. In order to protect himself against his attacks, the king appealed to the English government, which maintained a body of troops in the islands from Feb. 25 to July 8, 1843. In 1844 the independence of the country was officially recognized by the governments of Great Britain and the United States. A treaty, however, concluded with England in 1846, gave to that power a preponderating influence in the islands. New and serious complications with France arose in 1849, when the French consul Dillon insisted upon equal privileges for missionaries of all persuasions, upon a reduction of the tariff, and upon the adoption of the French as the official language. The refusal of the king to comply with these demands led to hostile demonstrations on the part of the French, which were only interrupted by the protest of the representatives of the United States and Great Britain. An attempt to renew hostilities was made by France in 1851, which induced the king to strengthen his alliance with the United States. Chiefly under the advice of American missionaries and other American residents, he adopted (Dec. 6, 1852) a constitutional form of government, with a house of nobles composed of 27 and a lower house of 25 members, respectively including 3 and 8 foreigners. The project of annexing the Sandwich islands to the United States, formed during his reign, was abandoned after his death (Oct. 15, 1854), when he was succeeded by his son, KAMEHAMEHA IV. (Alexander Liholiho), the present king, who was born Feb. 9, 1834. This prince received an excellent education from Protestant missionaries, and improved his knowledge by travelling in Europe. In 1856 he married Emma Rooker, daughter of an English physician, who gave birth to a son, May 20, 1858. A great sensation was produced in the islands in 1859 by the king's attempting, in a fit of jealousy against his wife, to murder his secretary. He proposed to abdicate, but was persuaded to resume his duties.

KAMES, LORD. See HOME, HENRY.

KAMIENIEC, KAMIENIETZ, or KAMENETZ-PODOLAKOI, a town of Russia, capital of the government of Podolia, 12 m. N. from the Dniester, on the left bank of its confluent the Smotritza, 285 m. N. W. from Odessa; pop. in 1856, 18,800, of whom half are Jews. It is the seat of a Greek eparchy, and a Roman Catholic see. The principal buildings are the cathedral of Peter and Paul and 4 other Greek churches, several convents, one Armenian and 3 Roman Catholic churches, a Greek theological seminary, a gymnasium, 2 public schools, and a government library. The town has some manufactures and a considerable trade, especially in peltries with Moldavia. Its fortifications were razed in 1812; it has still a citadel and a detached fort. This place was the strongest bulwark of the Poles toward their Turkish frontier. The Turks took it in 1672, and held it till the peace of Carlovitz in 1699.

KAMOURASKA, an E. co. of Canada East, bounded S. E. by the state of Maine and N. W. by the river St. Lawrence; area, 1,090 sq. m.; pop. in 1851, 20,896. It is drained by Du Loup, Kamouraska, and Ouelle rivers, and other small tributaries of the St. Lawrence, and by some affluents of the St. John. The surface is diversified, and in the S. mountainous. The soil is fertile. Wheat, rye, barley, oats, and potatoes are the principal productions. Capital, Kamouraska.

KAMPEN, NIKOLAAS GODFRIED VAN, a Dutch historian, born in Haarlem, May 15, 1776, died March 14, 1839. As a youth he acquired in a book store, where he was employed, a knowledge of literature, and mastered several languages. He then became teacher of German, editor of the "Leyden Gazette," and finally professor of the Dutch language, literature, and history, first at the university and then at the *atheneum* in Leyden. He was the author of numerous works, many of which, translated into German, have a European reputation.

KÄMPFER, ENGELBRECHT, a German traveler, born in Lemgo, Lippe-Deimold, Sept. 16, 1651, died in Detmold, Nov. 2, 1716. He completed his education at the university of Königsberg, and then going to Sweden was appointed secretary to an embassy which was proceeding from that country to Persia. In 1685 he entered as surgeon the naval service of the Dutch East India company, and sailed for Batavia, whence in 1690 he was despatched to Japan in the capacity of physician to the embassy which that company annually sent thither. He remained in Japan two years, and gathered materials for his great work on the history, resources, &c., of that empire. In 1693 he returned to Europe. He was the author of various valuable works, but published nothing himself, save his *Amanitates Exoticae* (1712), which contains much curious matter touching the natural history, antiquities, &c., of Persia and other countries of western Asia. His account of the Japanese empire has never been published in the original, but an English translation of it, under the title of "History of Japan and Description of Siam," appeared

in London in 1727, and from this the French and German versions have been taken.

KAMTCHATKA, a large peninsula of the Russian empire, on the N. E. of Asia, 850 m. long from N. to S., and of irregular breadth, the maximum, along the 56th parallel of latitude, being about 250 m.; area, 80,000 sq. m.; pop. in 1856, 19,101. It is bounded N. by the country of the Tchouktchees, E. by the sea of Kamtohatka, S. by a strait separating it from the Koorile islands, and W. by the sea of Okhotsk. Since 1856 it has been united with the Trans-Jablonic district and the recently acquired Amour territory to form the maritime province of Eastern Siberia. The coasts are dangerous of approach on account of outlying reefs. A lofty range of volcanic mountains traverses the country in a S. W. direction, with many peaks between 7,000 and 16,000 feet high. The snow line, in lat. $56^{\circ} 40'$, is at an elevation of 5,260 feet. This range is a portion of the great volcanic chain extending from the Jablonoi mountain range to the Koorile islands. Dittmar, a Russian traveller, has devoted 3 years (1851-'53) to the exploration of the geology of Kamtohatka. He traced 5 successive formations, and found 17 volcanoes still in active operation. Numerous rivers have their rise in the heights. The Kamtohatka, with its affluent the Yelovka, is navigable for 150 m. The most fertile portion of the peninsula for agricultural purposes lies along the valley of this river. The Russian settlers here raise oats, barley, rye, potatoes, and garden vegetables, but the rest of the country is little adapted for culture. The climate is very severe; the winter lasts 9 months, and frost is common at all seasons. The mean annual temperature at Petropavlovsk on the E. coast is 28.5° , while at Tigil on the W. it is 43° . The average temperature of summer at the former place is 55.5° , and that of winter 19° , but the thermometer has been known to fall as low as -25° . Earthquakes are frequent and violent. Animal life is very abundant, and until recently the inhabitants supported themselves wholly on the products of the chase; but since the game has diminished, they find plenty of aliment in fish, which swarm in the seas and rivers. The wild animals, yet abundant in the more sequestered localities, are bears, wolves, reindeer, argalis or wild sheep, black, red, and gray foxes, ermine, sables, and otters. Wild fowl are very numerous. The principal varieties of fish are herrings, cod, and salmon. Whales are numerous in the adjacent seas. The mountains are covered with forests of birch, larch, pine, and cedar, of considerable size in the south, but diminishing northward until the northernmost portion of the territory is covered only with reindeer moss.—The Kamtchatdales, the principal native tribe, are of diminutive stature, but stout, with flat features, small eyes, thin lips, lank black hair, and scarcely any beard. They are described as a peaceable, honest, lazy, and intemperate race. In winter they reside in a sunken hut, in summer in one elevated on poles

some 18 feet from the ground. Their dress is equally adapted to the changes of temperature, being of fur in winter and nankeen in summer. They are nominally governed by their own *toions* or chiefs, under the jurisdiction of the Russian *iepravnik*, or chief judge. Dog trains are used as the means of transport. The other principal tribe are the Koriakes, who live north of lat. 58° . While the Kamtchatdales are hunters and fishermen, with fixed habitations, the Koriakes are a wandering tribe, subsisting on the produce of the reindeer, and differing from them in language and mode of life. The commerce of Kamtohatka is chiefly with Okhotsk. Its exports are furs, of which 80,000 skins of all kinds are collected annually, oil, &c. Its imports are flour, sugar, dry goods, whiskey, rice, and coffee, almost all passing through the port of Petropavlovsk, the capital, on Avataka bay. The other ports are Bolsheretsk, a small harbor on the W. coast, and Lower Kamtohatka, on Kamtohatka river, with 100 inhabitants. Among the many persons banished to Kamtohatka by the Russian government was the celebrated adventurer Beniowsky.

KANAWHA, a W. co. of Va., drained by Great Kanawha, Elk, Coal, and Pocatalico rivers; area, 1,176 sq. m.; pop. in 1850, 15,353, of whom 3,140 were slaves. The surface is mountainous, and the uplands are mostly covered with timber. Coal is abundant, and salt is obtained from numerous springs. The prevailing geographical formation is sandstone. The valleys are fertile, and the productions in 1850 were 352,995 bushels of Indian corn, 25,074 of wheat, 58,596 of oats, 2,014 tons of hay, 5,627 lbs. of tobacco, and 15,171 lbs. of wool. There were 83 salt works, 9 grist mills, 14 saw mills, 1 newspaper office, 25 churches, and 1,300 pupils attending public schools. The Lexington and Big Sandy railroad, now in course of construction, will pass through the county. Value of real estate in 1856, \$3,460,960, showing an increase of 21 per cent. since 1850. Capital, Charleston.

KANAWHA RIVER. See **GREAT KANAWHA**.

KANE, a N. E. co. of Ill., drained by Fox or Pishtaka river; area, 540 sq. m.; pop. in 1855, 26,665. The surface consists chiefly of rolling prairie, diversified by numerous small tracts of timber. The soil is fertile, and rests on a bed of limestone. The productions in 1850 were 337,598 bushels of Indian corn, 816,493 of wheat, 206,864 of oats, 23,244 tons of hay, 224,085 lbs. of butter, and 43,803 of wool. There were 6 grist mills, 10 saw mills, 3 newspaper offices, 18 churches, and 3,665 pupils attending public schools. The Galena and Chicago union, the Fox river valley, and the Chicago, Burlington, and Quincy railroads pass through the county. Capital, Geneva.

KANE, ELISHA KENT, M.D., an American arctic explorer, born in Philadelphia, Feb. 3, 1820, died in Havana, Feb. 16, 1857. He was the son of Judge John K. Kane of Philadelphia. The anecdotes narrated of his boyhood show

him to have been during that time generous and high-spirited, with a great natural sense of courtesy. He was especially distinguished by physical hardihood and perseverance. In 1886 he entered the Virginia university, where he devoted himself principally to the study of natural science and mathematics under Profs. Rogers and Bonnycastle. He was rapidly qualifying himself for the profession of a civil engineer, when in 1888 he left the university, owing to a disease of the lining membrane of the heart, from which he never fully recovered. As it was now impossible for him to become a civil engineer, he began in 1889 the study of medicine in the office of Dr. William Harris of Philadelphia. On Oct. 19, 1840, he was elected, while still an undergraduate and not of age, resident physician in the Pennsylvania hospital. On graduating he wrote an inaugural thesis on kystein, a substance discovered in 1831. The positions advanced in this thesis were subsequently approved by many eminent medical men both in America and Europe. His health still continuing bad, his father obtained for him a warrant of examination for the post of surgeon in the navy, and after admission he sailed in the frigate *Brandywine* with Commodore Parker, in May, 1843, as physician to the embassy to China. During the voyage, while his ship was detained at Rio de Janeiro, he witnessed the coronation of the empress of Brazil, and visited the eastern Andes, examining with such care as time permitted the geology of the region. The American legation being delayed for several months at Bombay, Dr. Kane availed himself of the opportunity to visit the cave temples of Ellora and Carlee, and to travel in Ceylon. Finally the expedition reached Macao, where it remained for nearly 7 months. During this time Dr. Kane, having provided a substitute, crossed the China sea to Luzon, where, having many friends, he was enabled to make a more complete examination of the Philippines than any foreigner had at that time effected. He traversed Luzon from Manila to the Pacific coast, and accomplished an extraordinary feat in descending the crater of the great volcano of Taal. "Only one European had attempted this before," says the biographer of Dr. Kane, "and he without success." Returning to Whampoa, he was present at the entertainments and ceremonies given by the American legation and by Chinese dignitaries. In visiting Chinese cities and their environs he displayed great courage and remarkable activity. Fletcher Webster, secretary of the legation, wrote of him at Macao: "He had explored the whole town itself before we of slower motions had commenced." He remained after the legation had left China, and was engaged for 6 months in successful practice as a physician at Whampoa, where he was attacked at the close of 1844 by fever, which so debilitated him that he resolved to return home. Setting out for that purpose, he visited Borneo and Sumatra, and with a travelling companion, Mr. Dent, returned from Singapore to Ceylon, and spent several months in

exploring the interior of India, including the ascent of the Himalaya mountains. Having been invited by Dwarkanath Tagore, a wealthy Hindoo who was preparing to visit the English court, to join his suite, Dr. Kane availed himself of the opportunity to go as far as Egypt, through Persia and Syria. Parting from the prince at Alexandria, he traversed Egypt, going as far south as Sennaar, and becoming acquainted with Lepsius. He had the misfortune to lose his baggage and papers, and having been wounded in fighting with Bedouin robbers, he returned to Alexandria, where he had an attack of the plague, which nearly cost him his life. Scarcely recovered, he set out for Greece, which he traversed on foot, and then passed from Patras to Trieste. He now travelled through Germany and Switzerland, making in the latter country careful studies of the glaciers, which he afterward found of service in illustrating his theories of the arctic regions. From Switzerland he went to Italy, France, and England, and from England returned home. On May 25, 1846, he sailed in the U. S. frigate *United States*, under Commodore Reed, for the coast of Africa. Having in Brazil in 1843 obtained letters of introduction from the famous slave dealer Da Souza to his agents in Africa, Dr. Kane was enabled to inspect the factories, and joining a caravan visited Dahomey, where he became well acquainted with the sovereign. But in returning to the coast he was attacked by the fever of that region, and finally reached Philadelphia, April 6, 1847, much weakened in health. Having obtained a transfer of his appointment from the naval to the military staff, he set out on Nov. 6 for Mexico. Being desirous of reaching the city in time to take part in the war, he went from Perote with the guerilla spy company of Dominguez. On the way he was concerned in a desperate encounter with a Mexican party, performing many feats of heroism in defence of prisoners against his own men after the victory. Generals Gaona and Torrejon were among the persons thus saved. Dr. Kane received a lance wound and had his horse killed under him. He was most kindly tended by the family of Gaona, and having been carried to Mexico on a hospital ambulance was there invalided and returned home. In Jan. 1849, he sailed in a store ship to Rio Janeiro, Lisbon, and the Mediterranean, returning in October. In May, 1850, he sailed from New York as surgeon and naturalist to the expedition under Lieut. De Haven, fitted out at the cost of Mr. Henry Grinnell, to search for Sir John Franklin. A brief account of this expedition, of which Dr. Kane published an interesting narrative, is given in the article *ARCTIC DISCOVERY*. His health was restored during his adventures in the polar snows, but it was very severely tried after his return to America by extreme literary and intellectual exertion. The disappointment which had attended the return of the unsuccessful English and American expeditions had only increased the public desire to ascertain the fate of Franklin. More vigor-

ous efforts were to be made, and Dr. Kane was desirous of taking part in them. When so ill as to be incapable of writing a long letter, he wrote to Mr. Grinnell, offering his services. Finally, through the liberality of Mr. Grinnell and Mr. George Peabody, \$10,000 and a vessel were secured. To forward this expedition, Dr. Kane contributed his own pay (about \$3,000) and the proceeds of the lectures which he delivered in 1852-'3. While thus employed he found an additional burden in the task of defending De Haven's priority of discovery of Grinnell Land at the head of Wellington channel, an honor claimed by the English. The expedition was at last ready to sail, Dr. Kane receiving the command, the government furnishing 10 men, with rations and apparatus from the medical bureau, and the Smithsonian institution and national observatory supplying valuable scientific assistance. The *Advance* sailed from New York, May 30, 1853, and the surviving officers and crew reached home again in Oct. 1855, having been forced to abandon the brig in the ice, and to travel with sledges and boats for 64 days to the Danish settlements on the coast of Greenland, where they met the expedition sent out for their relief under Capt. Hartstene. No traces of Sir John Franklin's party had been found. The most striking result of the voyage was the discovery of the open polar sea, the existence of which Dr. Kane had maintained in a paper read before the American geographical society, Oct. 14, 1852. The story of the sufferings and discoveries of this heroic band of explorers was told by Dr. Kane in his "Second Grinnell Expedition in Search of Sir John Franklin" (3 vols. 8vo., Philadelphia, 1856). Gold medals were awarded to him by congress, by the legislature of New York, and by the royal geographical society of London. He also received the queen's medal given to arctic explorers between the years 1818 and 1856, and a testimonial from the British residents of New York city. Dr. Kane's health now gave way again, and soon after completing his narrative he sailed for England, accompanied by Morton, who had been his attendant in the last voyages. In London he grew rapidly worse. Finding himself sinking, he sailed on Feb. 17 for St. Thomas, whence he went to Havana, being attacked during the voyage by a paralytic stroke. On Dec. 26 he reached Havana, where he died as he was about to be removed to the United States.—See "Life of Dr. E. K. Kane," by William Elder, M.D. (8vo., Philadelphia, 1857).

KANGAROO, a marsupial animal, whose numerous species constitute the family *macropodidae*, peculiar to Australia and the neighboring islands. The marsupial characters will be given in the article MARSUPIALS. The dentition is as follows: incisors $\frac{3}{1}$, canines none or one on each side in the upper jaw, premolars $\frac{1}{1}$, molars $\frac{4}{3}$; the upper incisors are large and broad, some of them resembling those of man, often arched, grooved, and dilated at the end; the lower incisors are horizontal, compressed, lan-

ceolate, with cutting margins; the molars are broad, tuberculated, with nearly quadrangular crowns; in many of the species the lower incisors may be separated by means of the loose connection of the branches of the jaw at the chin. The head is elongated, the upper lip cleft, the muzzle entirely or nearly naked, ears large, eyelashes springing directly from the lids; the clavicles weak and slender, especially in the large species; fore limbs usually very small in proportion to the hind; the hands naked beneath, with 5 well developed fingers, each armed with a strong curved claw; the hind legs large and powerful; the foot long, 4-toed, the 1st or inner toe being absent, the 2d and 3d long, slender, and so united by integument as to resemble a single toe with a double nail; nails distinct and hollow beneath; 4th hind toe much developed, with a large solid claw, the 5th smaller with a strong claw; tail long, thick at the base, and usually very powerful; the marsupial pouch well developed and opening forward; mammae usually 4; stomach complex, and caecum long and simple. Kangaroos are vegetable feeders, browsing like ruminants, and like these, according to Owen, occasionally chew the cud; they vary in height from that of a man to that of a hare, but when browsing apply the fore feet to the ground; at other times they rest upon the tripod formed by the hind legs and powerful tail, with the fore part of the body inclining slightly forward. They are the only marsupials which are not of nocturnal habits.—Of the 80 species described, the largest and the best known is the great kangaroo (*macropus giganteus*, Shaw), discovered in 1770 on the coast of New South Wales during Cook's first voyage; an adult male in the British museum measures $5\frac{1}{2}$ feet from tip of nose to root of tail, the latter being $8\frac{1}{2}$ feet additional, the head $8\frac{1}{2}$ inches to the ears, ears about 5 inches, length of forearm and hand (without the claws) 17 inches, and of tarsus alone $15\frac{1}{2}$ inches; the female is about $\frac{1}{2}$ smaller. The hair is moderately long and soft, of a general gray brown above and paler below, toes and end of tail black. It prefers low grassy hills and plains and open districts, where it browses upon the herbage and low bushes, retiring from the heat of mid-day under the shelter of the ferns and tall grasses. At the least alarm it raises itself on the hind legs and tail, its height enabling it to command a very extensive view; exceedingly timid, with acute senses of smell and sight, it is difficult to approach, but occasionally falls a victim to the spears and traps of the natives who hunt it for food; the English colonists pursue it so successfully with hound and gun that it is now rarely seen except in the interior. The kangaroo sometimes turns upon his canine enemies, and will either rip them open with the sharp hind feet, or clasping one in his fore paws leap to some water hole and drown it; the unwary human hunter may meet a similar fate. One of the principal uses of the peculiar Australian weapon, the boomerang, which

may be made to fall in advance of or behind the thrower, is to destroy the timid and wary kangaroo. Though nearly as awkward as a bat when browsing, it is a most fleet and graceful animal when making its enormous bounds, sometimes clearing a rod at a leap. The fore feet are prehensile, and are used in the various offices connected with the care of the young. Kangaroos are not generally gregarious. The skin is valuable for leather, which is esteemed for shoes and gloves; the fashionable gentry of Sydney, N. S. W., will not wear any boots and shoes not made of the skin of the Tasmania brush kangaroo; the flesh is also considered a delicacy. Prof. Owen has ascertained that the gestation in the *M. giganteus* is 29 days; the young when first born resemble, according to observations made at the London zoological gardens by him, earth worms in color and semi-transparency, the body being bent upon itself, the short tail tucked in between the hind legs, and these last $\frac{1}{2}$ shorter than the fore legs; the whole length, when stretched out, was $1\frac{1}{2}$ inches. As soon as born, the young are placed in the mother's pouch, which is held open by her fore paws while they are taken up by her mouth. There is no vascular connection between the young kangaroo and the nipple; when separated by force, the milky secretion is seen oozing out; the young seem unable to regain the nipple, which is sometimes replaced in the mouth by the mother; the teat has a circular enlargement at the tip, which makes it easy to be retained. Though the young can firmly grasp the nipple by the lips, it cannot draw the milk without the aid of the mother, which by the action of a muscle in the mammary gland can inject this fluid into the mouth of the suckling; lest the act of injection, when not coinciding with that of suction, should endanger the life of the fetus from suffocation, the cartilages of the larynx are so arranged that the opening of the glottis is placed at the top of a cone which projects, as in whales, into the posterior nostrils, so that the stream of milk passes on each side into the gullet without the possibility of entering the windpipe—a most striking example of creative design for the protection of this embryonic creature.—The sub-genus *lagorchestes* (Gould) includes a few small kangaroos with the muffle clothed with velvet-like hairs; *halmaturus* (F. Cuv.) comprises those in which the muffle is naked in front; *heteropus* (Jourdan) contains the rock kangaroos, with compact body, hind feet comparatively short and rough beneath, hairy tail, and naked muffle. In the tree kangaroos (*dendrolagus*, Müller) the fore legs are almost as long and strong as the hind legs, with pointed claws, and the tail is long, bushy, and cylindrical; they ascend trees with facility. The rat kangaroos constitute the genus *hypiprymnus* (Illiger), called also potoroos; they are about the size of a rabbit, with upper canines, compact body less elongated anteriorly, and with the toes of the fore feet unevenly developed, the 3 central ones the longest, with

solid nails compressed and broadest above; they feed on roots which they dig up with their fore paws.—Fossil kangaroos have been found in the limestone caverns and alluvial deposits of Australia, of which the *M. Atlas*, *Titan*, and *Goliath* (all of Owen) were at least $\frac{1}{2}$ larger than any living species. The fossil genera *diprotodon* and *nototherium* of Owen, the former superior and the latter equal to the rhinoceros in bulk, found in the alluvial deposits of the Australian Condamine river, are considered by him to have been marsupials coming near the kangaroos and the wombats.

KANKAKEE, a N. E. co. of Ill., bounded E. by Ind. and drained by Kankakee and Iroquois rivers; area about 590 sq. m.; pop. in 1855, 10,110. It has a level surface, and consists chiefly of prairie with some swamps. Coal and limestone are found. The Chicago branch of the Illinois central railroad passes through Kankakee City, the capital. The county was formed from Will and Iroquois in 1851.

KANO, the largest and most important province of Houssa in central Africa, occupying the N. portion of that country. It comprises a fertile district of considerable extent, producing cotton, indigo, tobacco, and abundant crops of the chief cereals, beside sorghum, sweet potatoes, yams, dates, and a variety of other vegetables and fruits. The manufacture of dyed cotton cloths is extensively carried on. The principal city is Kano, beside which there are upward of 30 walled towns and numerous villages. The population probably exceeds 500,000, of whom 200,000 are slaves. The governor is able to raise an army of 7,000 horse and 20,000 foot; and he levies an annual tribute of 100,000,000 cowries, beside presents from merchants.—The city of KANO, the capital of the province, and the most important centre of manufactures and commerce in Houssa, is situated on a fertile plain in lat. $12^{\circ} 0' 19''$ N. and long. $8^{\circ} 30' E.$; pop. about 40,000, nearly half of whom are slaves. In busy times the influx of foreigners and merchants swells the population to upward of 60,000. The city is surrounded by a well built clay wall 30 feet high, having 14 gates defended by guard houses, and making a circuit of more than 15 miles; but not more than a third of the space enclosed by the walls is occupied by houses, the remainder being appropriated to gardens and cultivated fields, whence, in case of a protracted siege, the inhabitants may derive a sufficient supply of corn for sustenance. The principal article of commerce is the cotton cloth woven and dyed here of various colors, and which is exported to many parts of central and northern Africa. The fine cotton fabrics in such extensive demand in Timbuctoo, and which have been supposed to be produced there, are in fact derived chiefly from Kano. Dr. Barth estimates the value of this export at 800,000,000 cowries. Among other articles of export are hides, dyed sheepskins, the kola nut, ivory, sandals, &c. The slave trade is an important branch of na-

tive commerce, and about 5,000 slaves are annually exported, beside many sold for domestic use. The principal European goods imported are printed muslins and calicoes from Manchester, silks, needles, razors, sword blades, and various other kinds of hardware. This trade has recently met with a vigorous rival in the shape of American productions brought to the western coast and exchanged for slaves.

KANSAS, a territory of the United States, lying between lat. 37° and 40° N. and long. 94° 40' and 106° 50' W., bounded N. by the territory of Nebraska, E. by the state of Missouri, S. by the Indian territory and New Mexico, and W. by New Mexico and Utah. With the exception of the N. E. corner of the territory, where the boundary line follows the irregular course of the Missouri river, its shape is that of a parallelogram as far W. as long. 108°; the boundary then follows this meridian N. to lat. 38°, and runs W. along that parallel to long. 106° 50', thence N. to about lat. 39° 20', E. to long. 105° 40', and finally N. again until it meets the Nebraska frontier. Length, E. and W., 550 m.; breadth, E. of long. 108°, 208 m.; W. of that line, 189 m.; area, 114,798 sq. m., or 78,000,000 acres, about $\frac{1}{4}$ of which is unfit for cultivation. The territory is divided into 37 counties, viz.: Allen, Anderson, Atchison, Bourbon, Butler, Breckinridge, Brown, Chase, Clay, Coffey, Davis, Doniphan, Dorn, Douglas, Franklin, Greenwood, Hunter, Jackson, Jefferson, Johnson, Leavenworth, Linn, Lykins, Madison, Marshall, McGee, Morris, Nemaha, Osage, Potawatamie, Riley, Shawnee, Wabonse, Washington, Wilson, Woodson, and Wyandot. The principal cities and towns are Atchison, Doniphan, Elwood, Lawrence, Leavenworth, Lecompton (the capital), Manhattan, Osawatamie, Tecumseh, and Topeka. The population of 31 counties, according to the returns made by assessors in 1859, was 69,950; but the actual population of the territory is believed not to fall short of 120,000. The principal rivers are the Kansas, rising in the Rocky mountains in 2 branches called Republican and Smoky Hill forks, which unite at Fort Riley, and joining the Missouri near Kansas City after a nearly due E. course of 120 m. from Fort Riley, to which point it is navigable; the Osage, the Neosho, and the Verdigris, which drain the eastern part of the territory, and run generally E. or S. E.; the Arkansas, rising among the Rocky mountains in the W., and, after coursing E. through about $\frac{1}{4}$ of Kansas, turning S. E. into the Indian territory; the Red fork of Arkansas river, which waters the S. part; and a number of small tributaries of Platte river in the N. W. The streams generally have broad shallow channels, and with the exception of the Kansas are not available for navigation. The surface of eastern Kansas is chiefly undulating, with here and there an elevation of considerable height. The general inclination of the ridges is N. and S. The middle portion of the territory is more level, and the western is much broken, both by the Rocky mountains, whose

spurs extend some 80 or 100 m. E. of the Utah frontier, and by eminences called "buttes," varying in width from 100 feet upward, with flat tops and nearly perpendicular sides, apparently formed by the subsidence of the surrounding land. The principal elevation of the Rocky mountains in Kansas is Pike's peak. The general aspect of the three regions which we have mentioned varies greatly. The eastern presents a succession of rich prairies, grass-covered hills, and fertile valleys, with an abundance of timber, on the streams; the middle is thinly wooded, and partly occupied by a vast desert extending into New Mexico; and the western has every requisite for a fine grazing country, with many tracts of forest. The prevailing rock is limestone, which crops out from the surface, or lies scattered over the ground in the form of bowlders. Sandstone is also abundant in certain localities. The soil, particularly in the E., is rich and deep, consisting generally of a black loam, sometimes mixed with sand. In the river bottoms it is exuberantly fertile, and the decomposition of the limestone which forms the base of many of the bluffs and the beds of rivers constantly adds to its productiveness. The climate is mild and agreeable. The winters are short, and snow seldom falls in large quantities. The months of February, March, and April are marked by sudden changes of temperature and fierce winds. The rainy season is from May 10 to June 10; there is very little rain in midsummer or autumn, and the annual fall is less than 30 inches. The thermometer sometimes rises to 115° F. in summer, but the air is tempered by breezes, and the nights are almost always cool. The territory is considered extremely healthy. The most important mineral products of Kansas are coal (the Missouri fields extending into this territory), gypsum, granite, quartz, porphyry, feldspar, and gold. The last will be noticed in the article PIKE'S PEAK. The buffalo, elk, deer, antelope, prairie dog, squirrel, horned frog, prairie hen, grouse, wild turkey, wild goose, and many varieties of small birds are found. The timber trees are elm, yellow oak, black walnut, hickory, cottonwood, sycamore, basswood, &c.; they are mostly confined to the intervals of the larger streams, their growth elsewhere being checked by fires which often sweep over the prairies. Although abundant, few kinds except the oak and black walnut are suitable for cutting into planks, and building material at present is transported from New York and other distant places. The soil and climate are adapted to all the cereal crops, hemp, sorghum, and the fruits and garden vegetables common in the eastern states. Cotton has been cultivated in S. Kansas. Beside the white settlers, the territory has a considerable population of wild and partly or wholly domesticated Indians. The interior and W. parts are occupied by Camanches, Klowas, Cheyennes, Arapahoes, and other wandering tribes. In 1858 the territory contained the following Indian reservations: New

York Indiana, 1,658,880 acres; Potawatamies, 756,000; Kansas, 256,000; Delawares, 256,000; Ottos and Missouri, 160,000; Kickapoo, 128,000; Sacs and Foxes, 82,000; Wyandots, 24,960. For protection against hostile tribes the U. S. government has military posts at Forts Leavenworth and Riley. The country is as yet almost without works of internal improvement. The roads are bad, and there are few ferries or bridges.—Kansas was annexed to the United States in 1803 as part of the territory bought from France under the general designation of Louisiana. By the Missouri compromise bill of 1820 it was provided "that in all the territory ceded by France to the United States under the name of Louisiana which lies N. of lat. 36° 30' N., excepting only such part thereof as is included within the limits of the state (Missouri) contemplated by this act, slavery and involuntary servitude, otherwise than in the punishment of crime whereof the party shall have been duly convicted, shall be and is hereby for ever prohibited." By an act of congress passed in May, 1854, the territories of Kansas and Nebraska were organized, and in section 14 of this act it was declared that the constitution and all the laws of the United States should be in force in these territories except the Missouri compromise act of 1820, "which . . . is hereby declared inoperative and void." About a month previously the legislature of Massachusetts had incorporated the Massachusetts emigrant aid company, for the purpose of assisting emigrants to settle in the new territories, by giving them useful information, procuring them cheap passage over railroads, and by establishing mills and other conveniences at central points in the new settlements. In July the legislature of Connecticut granted a charter to a similar company. A large emigration into Kansas from the N. W. states had already taken place, and emigrants in considerable numbers from the free states and a few from the slave states now availed themselves of the opportunities for cheap transportation offered by these companies to settle in Kansas. A party of 80 men led by Mr. Branscomb founded the town of Lawrence, and were soon after joined by 60 or 70 more led by Mr. Charles Robinson and Gen. Pomeroy. Settlers from Missouri were at the same time passing into Kansas, in many cases taking their slaves with them. On July 29, 1854, a public meeting, called by the "Platte County Defensive Association," was held at Weston, Mo., and resolutions were adopted declaring that the association would hold itself in readiness, whenever called upon by any of the citizens of Kansas, "to assist in removing any and all emigrants who go there under the auspices of northern emigrant aid societies." These resolutions were published, signed by G. Galloway, president, and B. F. Stringfellow, secretary. On Aug. 12 another meeting was held at Weston, at which resolutions offered by Mr. Stringfellow were adopted, declaring in favor of the extension of

slavery into Kansas. Almon H. Reeder of Pennsylvania had been appointed governor of Kansas, and arrived in the territory Oct. 6. An election for a territorial delegate to congress was held Nov. 29. The polls were taken possession of by armed bands from Missouri, and out of 2,871 votes cast it was subsequently estimated by a congressional investigating committee that 1,729 were illegal. On March 30, 1855, another election for members of the territorial legislature was held, and the polls were again taken possession of by large bodies of armed men from Missouri, who, after electing pro-slavery delegates from every district, returned to their own homes in the adjacent state. From the investigation by the congressional committee it appeared that out of 6,218 votes cast at this election, only 1,810 were legal, of which 791 were given for the free state or anti-slavery candidates. From 6 of the districts, evidence of the illegal nature of the proceedings having been laid before Gov. Reeder, he set aside the returns and ordered new elections in those districts, which resulted in the choice of free state delegates, except at Leavenworth, where the polls were again seized by Missourians. Gov. Reeder soon after visited Washington to confer with the federal authorities, and after his return his removal from the office of governor was announced, July 26, for the alleged reason of irregular proceedings in the purchase of Indian lands. The territorial legislature assembled at Pawnee, July 3, and remained in session till Aug. 30. One of their first acts was to expel the free state men chosen at the second elections ordered by Gov. Reeder, and to give their seats to the pro-slavery men originally returned. They also passed an act making it a capital offence to assist slaves in escaping either into the territory or out of it; and felony, punishable with imprisonment at hard labor from 2 to 5 years, to conceal or aid escaping slaves, to circulate anti-slavery publications, or to deny the right to hold slaves in the territory; also an act requiring all voters to swear to sustain the fugitive slave law; and they also adopted in a body the laws of Missouri. Wilson Shannon of Ohio was appointed governor in place of Mr. Reeder, and assumed office Sept. 1. A few days later a convention of the free state party was held at Big Springs, and, after protesting against the acts of the legislature, nominated ex-Governor Reeder as delegate to congress, and appointed Oct. 9 as the time for holding the election, when Gov. Reeder received about 2,400 votes. At the same time delegates were chosen to a constitutional convention, which assembled at Topeka Oct. 28, and sat till Nov. 11, when they promulgated a constitution for the state of Kansas in which slavery was prohibited. The contest between the free state and pro-slavery parties now grew to such a pitch of violence that several men were killed on each side, and the people of Lawrence began to arm for self-defence. The governor called out the militia. A large number of Missourians enrolled themselves as

Kansas militia, and Lawrence for some days was in a state of siege; but the difficulty was temporarily adjusted by negotiation, and the Missourians retired to their own state. On Dec. 15 the people voted upon the question of accepting the Topeka constitution, and it was accepted with only 45 votes against it, exclusive of Leavenworth, where the polling was prevented by an inroad from Missouri. On Jan. 15, 1856, an election was held for state officers and a legislature under the Topeka constitution, and Charles Robinson was chosen governor. The legislature met at Topeka, March 4, and, after organizing and inaugurating the governor and other officers, adjourned to July 4. Early in April a considerable body of armed men from Georgia, Alabama, and other southern states, led by Major Buford, arrived in Kansas. On the 17th of the same month a special committee of the U. S. house of representatives, appointed about a month before, and charged to investigate the troubles in the territory of Kansas, arrived at Lawrence. The result of their investigations was a report by the majority of the committee, Messrs. Howard of Michigan and Sherman of Ohio, in which they said: "Every election has been controlled, not by the actual settlers, but by citizens of Missouri; and as a consequence, every officer in the territory from constable to legislators, except those appointed by the president, owe their positions to non-resident voters. None have been elected by the settlers, and your committee have been unable to find that any political power whatever, however unimportant, has been exercised by the people of the territory." Mr. Oliver of Missouri, the third member of the committee, made a minority report, in which he said: "It must have been apparent to all, that the report of the majority was not only *ex parte* and one-sided, but highly partisan in its character from beginning to end. This appears all through the paper, in the manner of their statement of all things referred to by them as facts, many of which statements of facts thus made rest upon no evidence whatever collected by the committee. . . . There is no evidence that any violence was resorted to, or force employed, by which men were prevented from voting, at a single election precinct in the territory, or that there was any greater disturbance at any election precinct than frequently occurs in all our state elections in exciting times." On May 5 the grand jury of Douglas county found indictments against Reeder, Robinson, Lane, and other free state leaders, for high treason, on the ground of their participation in the organization of a state government under the Topeka constitution. Reeder and Lane escaped from the territory, but Robinson was arrested and kept in prison for 4 months. The U. S. marshal took Buford's men into pay, and armed them with government muskets. Lawrence was again besieged by a large force, and on May 21, under a promise of safety to persons and protection to property, the inhabitants gave up their arms to the sheriff.

The invaders immediately entered the town, blew up and burned the hotel, burned Mr. Robinson's house, destroyed two printing presses, and plundered several stores and houses. A state of civil war now spread through the territory, the free state party being furnished with contributions of arms and money from non-slaveholding states. On May 26 a fight occurred at Potawatamie, in which 8 men were killed, and on June 2 another at Palmyra or Black Jack, which resulted in the capture of Capt. Pate of South Carolina and 80 of his men. Similar affairs, attended with more or less loss of life, continued to occur for 3 or 4 months. Parties of emigrants from the free states on their way through Missouri were in many cases stopped and turned back. The free state legislature met at the appointed time (July 4) at Topeka, and was forcibly dispersed by U. S. troops under Col. Sumner. On Aug. 14 the free state men assailed and took a fortified post near Lecompton, occupied by Col. Titus with a party of pro-slavery men, and captured Titus and 20 other prisoners. On Aug. 17 a treaty was agreed to between Gov. Shannon and the free state men, by which Shannon restored the cannon taken at Lawrence, and received in exchange Titus and the other prisoners. A few days later Shannon received notice of his removal from office, John W. Geary of Pennsylvania being appointed in his stead. Mr. Woodson, the secretary of the territory, and acting governor before Geary's arrival, on Aug. 25 issued a proclamation declaring the territory to be in a state of rebellion. He collected a considerable armed force at Lecompton, while another body, amounting to 1,150 men, assembled under the Hon. David Atchison, late U. S. senator from Missouri, at a point called Santa Fé. On Aug. 29 a detachment from Atchison's army attacked Osawatamie, which was defended by about 50 men, who made a vigorous resistance, but were defeated with the loss of 2 killed, 5 wounded, and 7 prisoners. Five of the assailants were killed, and thirty buildings were burned. The next day a body of free state men marched from Lawrence to attack Atchison's army. On their approach the latter retired and withdrew his forces into Missouri. On Sept. 1 the annual municipal election took place at Leavenworth. A party, chiefly from Missouri, killed and wounded several of the free state men, burned their houses, and forced about 150 to embark for St. Louis. On Sept. 8 Gov. Geary arrived at Lecompton, and Robinson and the other prisoners held on a charge of treason were released on bail. The governor on assuming office issued a proclamation calling upon all bodies of armed men to disband. He also promised protection to the free state men, who accordingly laid down their arms. The Missouri men, however, immediately assembled to the number of upward of 2,000, forming 8 regiments with pieces of artillery, and marched to attack Lawrence, under command of a member of the Missouri legislature. Gov. Geary with a force

of U. S. soldiers interposed between them and Lawrence, and finally prevailed upon them to retire. During their retreat a free state man named Buffum was shot down by a man named Haynes almost in the presence of the governor, who subsequently caused the arrest of Haynes on a charge of murder. The U. S. district Judge Lecompte, who was noted as an active partisan, liberated Haynes on bail, and afterward on *habeas corpus*. Thereupon Gov. Geary forwarded a representation to Washington demanding the judge's removal, and about the middle of December James C. Harrison of Kentucky was appointed in his place. Gov. Geary now reported to the president that peace and order were completely reestablished in Kansas. On Jan. 6, 1857, the legislature elected under the Topeka constitution met at Topeka, and organized next day. The U. S. marshal immediately arrested the president of the senate, the speaker of the house, and about a dozen of the leading members, whom he carried prisoners to Tecumseh on the charge of "having taken upon themselves the office and public trust of legislators for the state of Kansas, without lawful deputation or appointment." The houses, being left without a quorum, met the next day and adjourned till June. Shortly afterward the territorial legislature, composed entirely of pro-slavery men, chosen at an election in which the free state men had declined to participate on the ground of its illegality, met at Lecompton, and among other acts passed one providing for the election of a convention to frame a state constitution for Kansas. Meanwhile the house of representatives at Washington had passed a bill declaring void all the enactments of the territorial legislature, on the ground that they were "cruel and oppressive," and that "the said legislature was not elected by the legal voters of Kansas, but was forced upon them by non-residents." This bill, however, did not pass the senate, and that body refused to confirm the appointment of Harrison in place of Lecompte, who thus remained chief justice of Kansas, never having been actually dismissed. Upon this Gov. Geary resigned his office and quitted the territory. Robert J. Walker of Mississippi was appointed his successor, with Frederic P. Stanton of Tennessee for secretary. The election for delegates to the constitutional convention was held on June 15. The free state men generally took no part in it, on the ground that the legislature which ordered it had no legal authority, and that if they attempted to vote they would be defrauded and overborne by intruders from Missouri. About 2,000 votes were cast, while the legal voters in the territory by a recent census numbered about 10,000. At the territorial election held a few months later, the free state men, being assured by Gov. Walker of protection from intruders, went to the polls and cast about 7,600 votes, to 3,700 votes thrown by the opposite party, electing Marcus J. Parrott delegate to congress, together with 9 of the 17 councilmen and 27 of the 39 representatives.

An attempt was made to change this result by means of a false return from Oxford, Johnson co., a place containing 11 houses. It was alleged that at this place 1,624 persons had voted, and a corresponding roll of names was sent in, which on examination proved to have been copied in alphabetical order from a Cincinnati directory. This return, which, if accepted, would have changed the party character of the legislature by transferring from the free state to the pro-slavery side 8 representatives and 8 councilmen, was rejected by Gov. Walker as a manifest falsification. Soon after the territorial election the constitutional convention met at Lecompton and adopted a constitution, 4 sections of which related to slavery, declaring the right of owners to their slaves to be inviolable, and prohibiting the legislature from passing acts of emancipation. This provision alone was to be submitted to the electors at an election to be held on Dec. 21. The ballots cast were to be endorsed: "Constitution with slavery" or "Constitution with no slavery," thus securing in any event the adoption of the constitution, several clauses of which, beside those thus submitted, were highly objectionable to a majority of the people. A provision was inserted in the schedule annexed to the constitution preventing any amendment of that instrument previous to 1864. The promulgation of this constitution caused great excitement in Kansas. Gov. Walker condemned it in the strongest manner, and proceeded at once to Washington to remonstrate against its adoption by congress; but before his arrival there the act had received the approval of the president. Gov. Walker soon after his arrival in Washington resigned, and J. W. Denver of California became governor. At the election of Dec. 21 for the adoption or rejection of the slavery clause, the vote returned was 6,143, more than half of which was from counties along the Missouri border, whose total number of voters by the census did not exceed 1,000. Against the slavery clause there were 569 votes, the free state men generally abstaining from voting. The constitution being thus nominally adopted, an election for officers under it was to be held on Jan. 4. The territorial legislature at a special session passed an act submitting the Lecompton constitution to the direct vote of the people on the same day with the Lecompton state election, and the result was a majority of 10,226 votes against it. Congress after long discussion referred the matter to the people of Kansas at an election on Aug. 3, 1858, when the Lecompton constitution was again rejected by 10,000 majority. Meantime, the territorial legislature had called another convention to meet in April to frame a new constitution, which was submitted to the people and ratified by a large majority, though by a small total vote. Shortly after the rejection of the Lecompton constitution by the people, Gov. Denver resigned, and Samuel Medary of Ohio was appointed in his place. The territorial legislature met in Jan. 1859, and passed an act submitting to the people the ques-

tion of calling still another constitutional convention. The election was held March 21, and the result was a majority of 8,881 in favor of holding a convention. An election was accordingly held for delegates, and the convention thus chosen met at Wyandot July 5, and adjourned July 27, after adopting a constitution prohibiting slavery. This constitution was submitted to the popular vote Oct. 4, and was ratified by about 4,000 majority. The first state election was held under it Dec. 6, and resulted in the choice of Charles Robinson for governor. Congress has not yet accepted this constitution (April, 1860).

KANSAS CITY, a city of Jackson co., Mo., on the Kansas frontier, situated on the right or S. bank of the Missouri river, $\frac{1}{4}$ of a mile below the mouth of Kansas river, and 14 m. W. from Independence; pop. in 1855, about 600; in 1859, about 8,000. It is to be the W. terminus of a railroad from St. Louis, which is now (Jan. 1860) in running order 43 m. W. from Jefferson City, and is rapidly approaching completion. It is built on high ground and well laid out, with wide streets and houses chiefly of brick. It is an important station on the emigrant route to the far West *via* Kansas river, and the channel of an active trade. In 1859 the city had 2 daily and 4 weekly newspapers, 7 churches (1 Baptist, 1 Episcopal, 2 Methodist, 1 Presbyterian, 1 Reformed, and 1 Roman Catholic), 2 branch banks, an insurance company, several benevolent societies, a number of schools, including a German free school, a high school, and 2 female seminaries, an iron foundery, a saw mill, a flour mill, a tannery, a brewery, and 7 brick yards. It has also manufactures of agricultural implements, boots and shoes, &c., a large pork packing establishment, and several timber yards.

KANT, IMMANUEL, a German metaphysician, born in Königsberg, Prussia, April 22, 1724, died there, Feb. 12, 1804. He was of Scotch descent; his grandfather probably emigrated from Scotland near the close of the 17th century, and settled at Tilsit. His father, John George Kant, came to Königsberg in early life, and followed the trade of a saddler. His mother, Anna Regina Reuter, of German stock, was a woman of a refined and elevated character, and of deep religious feeling. The philosopher was the 4th of their 11 children. He tells us that when a boy he was idle and a truant; yet he also showed zeal in acquiring knowledge, and his parents gave him the best education their slender means would allow. Like Schelling and Hegel, he was first destined to the theological career. From his 8th to his 16th year he was a student in the *Collegium Fredericianum* of his native city, under the care of Dr. Schulz. Ruhnken the philologist was a fellow student, and they pursued together the study of the classics. Here, too, he felt the influence of pietism, then predominant in the college; and also learned the rudiments of the abstract philosophy of Wolf, which had the speculative

ascendency in philosophical and theological schools. But as yet he showed no metaphysical talent, though he was an indomitable worker. His character was influenced by the rigid morality and independence of his father, and the piety of his mother. In 1740 he entered the university as a student of theology; but his first attempts at preaching met with such poor success, that he concluded that he was destined for a different career, and applied himself with earnestness to mathematics and the physical sciences. His first essay, written in 1747, at the age of 22, was on "The True Measure of Living Forces," and contained an acute criticism of the arguments of Leibnitz and Descartes, with an attempt to mediate between the German and French schools, by distinguishing between dead and living powers. His father died in 1746; he had lost his mother 11 years before; and, that he might not be a burden upon his uncle, who had already aided him, he was compelled from that time until 1755 to become a tutor in private families. In the last of these, that of Herr von Kaiserling of Königsberg, his great talents and acquisitions were recognized, especially by the lady of the house; and here he was introduced into cultivated society, wearing off the bashfulness and reserve of a poor student. At length, in 1755, he was able to enter upon the career of academic instructor, for which he had been preparing himself by assiduous study and multifarious reading. His inaugural dissertations, as *magister legens*, were *De Igne*, and on the "First Principles of Metaphysical Science." In the same year he published anonymously a treatise on the theory of the heavens, dedicated to Frederic the Great, and written in a clear and animated style. Here he prophesied the discovery of new planets, and that the nebulae would be resolved into stars, beside advocating the position that a mechanical construction of nature was not adverse to the belief in a God. Lambert in 1761 advanced similar views, which led (1765-'70) to a correspondence between them. From the first he was a popular lecturer; several of his courses were always attended by many of the citizens of the active and thriving city of Königsberg, which had a high commercial and political, as well as literary rank. His course on physical geography was begun in 1757, and continued to the close of his academic career, receiving fresh additions at each repetition. Kant himself never went beyond his native province, and as seldom as possible away from the city; but he was an eager student of voyages and travels, and extracted all possible information from every traveller he could come across. He also lectured on practical anthropology, the theory of teaching, natural law, the philosophy of religion, ethics, logic, and mathematics. In 1762 he published a treatise on the "False Subtlety of the Four Syllogistic Figures," maintaining that only the first is "pure," that the others are *ratiocinia hybrida*. The next year he wrote an essay for a prize proposed by the Berlin academy on the "Principles of Natural

Theology and Ethics;" but Mendelssohn received the first, and Kant the *accessit* prize. He here says that a "real system of metaphysics had never yet been written;" he was already busy with this task. In the same year appeared his work on the "Only Possible Ground of Demonstrating the Being of God," proposing a new form of the ontological proof, and rejecting the other three arguments. Existence, he says, is not a predicate conception, and therefore cannot be proved; but the non-existence of God contains a logical contradiction. The new mode of proof which he advocates, says Erdmann (*Geschichte der Philosophie*, vol. iii. p. 81), reverses the positions of the schools of Descartes and Leibnitz; instead of inferring the existence of God as a consequence from the possibility, he takes the possibility as a consequence, and reasons back to the existence as the ground; if any thing is possible, there is some real being, the seat and source of all that is conceivable.—The year 1770 is made by Rosenkranz (*Geschichte der Kantischen Philosophie*, 1840, vol. xii. of Kant's works) the dividing line between the earlier or tentative period of his speculations, and the speculative and systematic period. In this year he became a professor in full in the university. For 15 years the subtlest and boldest thinker of Germany had been struggling along in obscurity, filling subordinate posts; for example, that of a subaltern in the royal library for \$50 a year, conferred on him in 1776, as an "accomplished" and "learned" person. He was indeed offered the professorship of poetry in 1764; but this does not seem to have suited him. The professorship of logic and metaphysics was given him after he had declined invitations to Jena and Erlangen; and his salary was to be \$300 per annum. He was content with his native city and university; he wanted to labor in quiet, and work out the great problems which were stirring his mind. His inaugural dissertation, *De Mundi Sensibilis atque Intelligibilis Forma et Principiis*, contains germs of his metaphysical system. He protests against the position that the knowledge of sense and that gained by the understanding are to be distinguished as respectively obscure and clear. There is, he says, a knowledge of sensible phenomena which is distinct, as there may be conceptions of the understanding which are confused. We must distinguish between the matter and the form of our knowledge of sensible objects; the form is given by the ideas of space and time, which are not objectively real, but pure intuitions; and these give us the basis of the sciences of mathematics and geometry. Intellectual knowledge is made up of pure or universal conceptions; not such as are abstracted from the phenomena of sense, but principles by which the understanding is guided, as those of necessity, possibility, causality, &c. Such are some of the positions in which he already arrays himself against materialism on the one hand and dogmatism on the other. In 1772 (Erdmann, *loc. cit.* 87) he writes about his scheme of a

transcendental philosophy, which he hopes to finish in 8 months; in 1776, it is to be completed the next summer; but not until 1781 did the "Criticism of the Pure Reason" make its appearance. For 11 years he had been writing and rewriting; the final draft was composed in a few months. He was already 57 years old. His system had been very slow in its growth; for a long time he was hardly conscious of what he was aiming at. He was pressed on the one hand by the abstract metaphysics of the idealism of Leibnitz as developed by Wolf; on the other hand, Hume's scepticism, as he says, "awoke him from his dogmatical slumbers." His own work was intended to give their respective rights to both idealism and realism, to metaphysics and materialism; yet, at the same time, to serve as a new basis on which the architectonics of the whole world of knowledge might be constructed. This system produced a revolution in the world of speculation. Partly from its profoundness, partly on account of its novel nomenclature, it was at first slightly noticed, and seemed in danger of lapsing into oblivion. But Kant was now thoroughly aroused, and eager in pressing the scheme, which was the product not only of his own life, but also of the chief systems which had gone before. His philosophical productivity became as remarkable as had been his previous reserve. In 1788 appeared his "Prolegomena to every future System of Metaphysics claiming to be a Science," a more popular exposition, and also a more complete analysis, of the questions and problems mooted in the "Criticism." He then endeavored to counteract the negative results of the system of pure reason by his "Metaphysics of Ethics" (1785), and "Metaphysical Elements of Natural Science" (1786), completing the exposition of his views in these two branches of philosophy. In 1787 the second edition of the "Criticism of Pure Reason" was published, omitting the preface to the first edition, and altering it so as to avoid the charge of idealism which had been generally preferred against his speculations, identified, or rather confounded, by some opponents with the system of Berkeley. This second edition was afterward reprinted, with only verbal alterations, though considered as somewhat compromising the logic of his speculations; but in the two recent editions of Kant's works, by Hartenstein and Rosenkranz, the contents of the first edition are also inserted. The "Criticism of the Practical Reason" (1788) was intended to give the positive aspect of the new philosophy in relation to God, freedom, and immortality; it is a further exposition and application of what was given in outline in the "Metaphysics of Ethics," and it contributed to give currency to his system among those who had been repelled by the apparently negative conclusions of the "Criticism of Pure Reason." Such was the rigor and such the vigor of the ethical scheme here propounded, that for a time it swept away the unmanly eudæmonistic ethics and the sentimental systems of morality. Even

those who thought they detected an inconsistency between the principles of Kant's "Pure Reason" and of his "Practical Reason," hailed the latter work as containing solid proofs of the real being of those supersensible objects which the critical idealism seemed to have reduced to subjective ideas. Its principles were made the basis of systems of divinity, by such theologians as Tieftrunk, Ständlin, Ammon, and somewhat later by Gabler and Wegscheider. The ethical element, the "categorical imperative," was held as the one fixed and saving point, in the midst of the jarring and opposite principles of the different schools in philosophy and theology; and this led to that rationalism, on a moral basis, which for a long time characterized German theology, a very different form of rationalism from the one which subsequently prevailed. To these works, in 1790, Kant added his "Criticism of the Judgment," which developed more fully the principles of the metaphysics of the natural sciences, and supplemented many positions in his other treatises, beside giving hints, and opening points of view, which were afterward used by those disposed to go beyond the principles of the critical philosophy. — With this work closed the productive metaphysical period of Kant's philosophic career. He was now 66 years old. In 9 years he had put forth, in rapid succession, a series of works which revived the slumbering activity of German philosophy; combated equally the abstractions of the dogmatist and the doubts of the sceptic; set forth the transcendental grounds and elements of knowledge, and thus laid the foundation for a new metaphysics; planted moral science upon a definite basis, giving it fixed and universal formulas; and which already began to affect the construction of the science of Christian theology. His subsequent writings form, according to his own statement, the practical period of his career, applying to different special sciences the principles he had elaborated. His philosophy was already expounded by Kiesewetter in Berlin, Schmid in Jena, Jakob in Halle, Born in Leipzig, and many others in different parts of Germany. Its more definite conflict with the orthodox theology was aroused by the publication of his essays on "Religion within the Bounds of Mere Reason," contributed to the Berlin *Monatsschrift*, then prohibited by the censor (re-established in 1788), and issued in a volume in 1793. Political influences were also concerned; for Kant was in sympathy with the French revolution. Frederic William II. sent to him a missive indicating his displeasure, and the philosopher was obliged to give a pledge that he would not lecture on religious subjects, "so long as he should be a subject of his majesty," the promise being so worded that he considered himself released from it on the death of that monarch. But he was so irritated by this governmental interference, that in 1794 he gave up all his private lectures, and after 1797 no longer read in the university. In 1797 appeared his "Metaphysics of Ethics," in two parts, viz.: the

"Metaphysical Elements of Right" (law), and "of Virtue." The "Strife of the Faculties" (1798) is a review of the controversy about his religious opinions, with the documents. His "Anthropology in a Pragmatic Point of View" was published the same year. After this his friends and pupils became the editors of his writings: Jäsche of his "Logic" (1800); Rink of his "Physical Geography" (1802) and "Pedagogics" (1808). After his death Pölitz published his lectures on the philosophy of religion (1817) and on metaphysics (1831), and Starke those on the human race (1831). He was disturbed, in his later years, by the symptoms of a new phase of speculation in the writings of Fichte (whom he had at first warmly welcomed, and whose work on revelation had been attributed to him), and sent forth an ineffectual protest in 1799; this showed a defect which he himself acknowledged in his power of appreciating other systems. An essay on which, in the decline of his faculties, he was for a long time employed, was found to be unintelligible, or only a repetition of what he had previously said upon the relation of physics to metaphysics. Speculation was already sweeping past the monuments he had reared. — To appreciate the character and position of the critical or transcendental philosophy of Kant, we must start with his own view of what philosophy had previously accomplished, and what he expected from his new method. In his own interpretation of the matter, it was the critical method, which he instituted, that formed the primary peculiarity of his scheme. All previous systems had led to dogmatism (Leibnitz and Wolf), or to scepticism (Hume). Dogmatism asserts the equal objective and subjective validity of its principles; metaphysical truths, like mathematical, hold both in reason and in fact. Scepticism, on the other hand, denies the objective validity of *a priori* truths; thus, for example, Hume could not find in experience any thing corresponding to the principle of causality, for sense gives only succession of phenomena; and this truth of causality, says Kant, is only one of a class, to all of which Hume's criticism is equally applicable. Both the dogmatist and the sceptic examine ideas or truths directly, and can never agree. Is there no other way of approaching the matter? Yes, says Kant, there is also the critical method; instead of assuming that our knowledge is determined by the objects, let us see how far the objects are determined by our knowledge. He compared this method, with a proud consciousness, to that of Copernicus, who, finding that he could not explain the motion of the heavenly bodies by supposing that they revolved around himself, tried whether he could not do better by supposing that he moved and the stars stood still. The true way, then, is to start with a criticism of man's power of knowing. And since man has three prime faculties, reason, will (or impulse to action), and feeling, this criticism must be divided into three main parts: the criticism of

the pure reason, the criticism of the practical reason (desire and will), and the criticism of judgment (having respect to feeling, or pleasure and pain). The first of these, however, contains the regulating principles for both the others, and gives the key to the system. The "Criticism of Pure Reason" was not originally intended to be a system of metaphysics, but rather an inquiry into the possibility of metaphysics; that is, it was critical. As against the sceptic, it was designed to show that there are in the human mind *a priori* or transcendental elements of knowledge, and that these are found even in the perceptions of sense and the laws of the understanding. As against the dogmatist, it was also intended to prove that even this transcendental knowledge does not attain with absolute certainty to the nature of things; it can neither demonstrate nor disprove the reality of objects corresponding to the ideas of reason. ("Transcendental" is used by Kant, not in respect to the objects of knowledge, but to the nature of the knowledge, as *a priori*.) Another, and the strictest mode of stating the question and problem, is this: Are *a priori* synthetical judgments possible? An analytical judgment is one which simply explicates, in respect to any subject, what is contained in its very notion; it reposes on the principle of identity. But such judgments give us no new knowledge. In a synthetical judgment, on the other hand, something is contained or asserted in the predicate, which is not necessarily implied in the subject; and such judgments extend the bounds of our knowledge. All *a posteriori* knowledge is of this character; and the metaphysical question is: Are such synthetical judgments also possible *a priori*? If they are, in any sphere (*e. g.* mathematics), sensualism is refuted; if they are not in the highest sphere (metaphysics), dogmatism is refuted. In conducting this inquiry Kant divides the human mind into the three functions of sense, understanding, and reason, and subjects each to a careful criticism. The general scheme, as carried out, is:

- I. Doctrine of the transcendental elements of knowledge.
 - A. Transcendental aesthetics (*i. e.* perceptions of sense).
 - B. Transcendental logic.
 - a. Transcendental analytics (the understanding).
 - b. Transcendental dialectics (reason, metaphysics).
- II. The transcendental method.

1. *The transcendental Aesthetics*, or the transcendental knowledge involved in the perceptions of sense. In all knowledge there are two elements, the matter and the form. The one is given by experience, the other by the mind. Sensations without ideas are blind; ideas without sensations are empty. The dogmatist ignores the former, the materialist the latter. What is given us in sensation is ordered or arranged by the mind under the two ideas of space and time, which ideas are not the product but the regulators of the sensations. That is, even in respect to the objects of sense, we find the *a priori* ideas of space and time controlling them; and this knowledge too gives us the possibility of a science, *viz.*, mathematics. But yet

this space and time are not forms of the objects of sensation, but the subjective framework in which we put and must put all our sensations. We cannot, then, attain objectively to the knowledge of things as they are in themselves (*Dinge an sich*), because those forms by which we know them are subjective. This denial of the objective validity of space and time is the starting point in the negative results of the "Criticism of the Pure Reason." In the first edition Kant threw out an intimation, withdrawn in the second, that the subject (*ego*) and things-in-themselves are possibly one and the same substance; this led to the subjective idealism of Fichte. 2. *Transcendental Analytics*. We pass here from the sense to the understanding, or the power of forming general notions. It is by such notions that we combine and connect what is given in experience. So that the fundamental question here is this: Is a pure science of nature possible? Here, too, as in the sense, are certain *a priori* principles, which Kant called categories of the understanding (applying Aristotle's term in a different sense). These categories, which he brought into connection with (or rather transferred and transformed from) the purely logical categories, are as follows:

	Logical.	Transcendental.
I. Quantity.	{ Universal. Particular. Singular.	Unity. Plurality. Totality.
II. Quality.	{ Affirmative. Negative. Indefinite.	Reality. Negation. Limitation.
III. Relation.	{ Categorical. Hypothetical. Disjunctive.	Substance. Cause. Reciprocity.
IV. Modality.	{ Problematical. Assertory. Apodictic.	Possibility. Necessity. Existence.

Under these 12 categories, or *a priori* notions of the understanding, we are compelled to bring all our sensible experience. Empty in themselves, they are filled up by phenomena; and they reduce the "rhapsody" of phenomena into order. But what warrants us in pursuing this process—in bringing together such different things as the obscure experience of sensible phenomena and the clear dicta of the understanding? We derive this warrant, says Kant, from the pure intuitions of space and time, in which there is an element common to both. All objective phenomena, and all subjective notions, equally fall under the dominion of these two intuitions, which thus become the *schemata* by and through which the mind interprets nature. Thus, the world does not give laws to the mind, but the mind rules the world. We cannot even know the external world excepting by and through these *a priori* conceptions (*e. g.* substance and time). But at the same time, Kant holds with equal tenacity to the position, that these judgments of the understanding do not, and cannot, disclose to us the supersensible world; we cannot through them come to the knowledge of things as they are in themselves. He does not deny their real objective being, but says that all we can know about them is through

our subjective notions. He even attributes to them activity and efficiency; they force the mind to distinguish and divide; but still, these objects and what the mind says about them are totally diverse. (This is one of the chief points in which subsequent criticism and speculation have modified the position of the Kantian theory of knowledge, making a more close and vital correspondence between the laws of thought and being in order to avoid the irresistible negative results of this theory.) The general result then of the analytics, as of the æsthetics, is, that what is not in time and space cannot be known by or through the categories; that is, it leads to that form of transcendental idealism, which maintains that things-in-themselves cannot be known, that only phenomena are known (*i. e.* known through and by the categories). At the same time Kant is careful to assert that these things-in-themselves have a real existence; and he distinguishes clearly between his system and the idealism of Berkeley on the one hand and that of Leibnitz on the other. Berkeley asserted that we have a knowledge merely of "ideas;" Kant asserts that we have not merely ideas, but ideas of something which is real and independent. Berkeley said that ideas were connected empirically; Kant says, by a necessity, by law (and hence there can be a science of nature). Kant made, as Berkeley did not, a thorough distinction between the *noumena* and the phenomena. 8. *Transcendental Dialectics.* Here we enter upon the proper criticism of the pure or theoretical reason; and here come up the real metaphysical questions. The understanding gives us general notions; the reason, ideas. The three grand ideas with which metaphysics has to do are those of the soul, of the world, and of God, which respectively form the basis of the three sciences, rational psychology, rational cosmology, and theology. By an unnatural method, Kant makes these three ideas correspond respectively with the categorical, hypothetical, and disjunctive syllogisms. He takes a similar course, as we have seen, with the categories of the understanding. The question of the identity of logic and metaphysics is inevitably suggested. The general conclusion of this part of the system is, that these sciences, in the sense of the older dogmatism, are impracticable to reason; but there is still for man a supersensible sphere to be reached and explored in other ways. In respect to rational psychology, it is the aim of Kant to show that we are not warranted in transferring to the soul, as an objective and immortal existence, those predicates which we apply to it as a matter of subjective consciousness; or, that the abstract demonstration of immortality, from the nature of the soul, involves paralogisma. Rational cosmology (or the sum total of the phenomena of the world, reduced to unity) leaves us in kindred contradiction as to the external world. On purely rational grounds (applying the four categories), we land in absolute antinomies, or contradictions: 1, as to quantity, we can equally prove that the world

is limited and unlimited; 2, as to quality, that its elements are both simple and infinitely divisible; 3, as to relation, that it is caused by a free act, or by an infinite series of mechanical causes; 4, as to modality, that it has an independent cause, and that its parts are only mutually dependent. These antinomies, as thus developed by Kant, bring out distinctly the contrast between the infinite and the finite, between the absolute and the relative. The force of them consists in viewing the world, on the one hand, as related to the infinite and absolute; on the other hand, as related to the finite and relative. Kant's solution of them is found in his position, that the categories have subjective but not objective validity. But the antinomy in each case results from applying to one and the same subject (*viz.*, the world) at the same time both infinite and finite properties, making it both absolute and relative, which of course involves us in contradictions. These antinomies show us that reason is weak in constructing the relation between the infinite and finite, between the absolute and relative; but not that reason may not know the real being of both. In the same manner, in his "Rational Theology," the various proofs of the being of God are discussed, and shown to be invalid, *viz.*, the ontological, the cosmological, and the physico-theological. The ontological argument confounds an analytic with a synthetic judgment; the cosmological is only another form of the ontological; and the physico-theological does not prove the perfection or infinitude of the Deity. Thus on grounds of pure reason, in relation to our highest ideas, we are left in the position of being unable to demonstrate their objective validity. Yet still they are "postulates," "necessary illusions;" we are obliged to take them as "regulative" principles. We cannot prove them; nor yet can the materialist or sceptic disprove them; that is, theoretically, we can neither admit nor deny them. This criticism does not lead, he claims, to scepticism; it only shows us the bounds of reason; in fact, it carries us over into that sphere where reason has an authentic and decisive voice, that is, the sphere of the practical reason, the sphere of final causes or ends. Thus may be solved, for practical purposes, the problems which to the pure reason are simply insoluble. The methodology, which forms the second chief part of this "Criticism of the Pure Reason," gives the rule by which reason may and ought to be guided, so that it shall not, for example, apply mathematics to incongruous subjects, nor confound the theoretical and the practical.—In the second of Kant's criticisms, that of the "Practical Reason," the unsolved problems are taken up under a different and positive point of view. His works on the "Metaphysics of Morals," and the "Metaphysical Elements of Law and of Virtue," are devoted to the same general theme. His general position is this: theoretical or pure reason gives us certain postulates, which on merely theoretical grounds cannot be proved to have a

valid being; or, in other words, it gives certain problems as to the soul and its immortality, as to the unity of the cosmos, and as to the being of God, which it cannot itself resolve. But where theoretical reason is silent, practical reason speaks with authority. The sphere of this practical reason is the will; and here is where reason unfolds its whole power and significance. The practical reason is thus the highest spiritual power in man; it has the "primacy" over all the others, even over the pure reason. This practical reason or will now acts, and must act, according to certain laws or principles. Some of these principles are merely subjective, or "maxims;" others have an imperative character or universal validity. These make the "categorical imperative," which is the decisive word in Kant's ethical theory. The moral law is such a categorical imperative; and this is a dictate of reason itself; the so called moral sense is not the source, but the product, of this superior moral law. The formula of this moral law is: "Act only on such a maxim as may also be a universal law;" or, "Act in reference to rational beings (thyself and others) as if they were ends in and for themselves, and not as if they were mere means to an end." If now, we know and are under such an absolute law, then we must be free; such a law is possible for us only as we are free in the strictest or transcendental sense. This is the "autonomy" of the will; it is a law unto itself; what I ought to do I must be able to do. If the moral law be real, freedom must be real; and that freedom which the pure reason left as a problem is thus proved to be a reality. Still further: if there be such a moral law, there must be a moral world, and in that world the highest good must be brought about by means of the moral law. But as a matter of fact, we find that each individual is still imperfect, under the dominion of sense; that virtue is never fully realized here. But it ought to be, it must be realized; and this realization can only be effected in an endless duration of the soul; the soul, then, must be immortal. Yet again, perfect happiness is essential to the highest good; but this happiness can only be realized when nature and morality are in entire harmony and unison. As a matter of fact they are not so; but yet they ought to be, and they must be. There must then be some power above both nature and moral agents, to connect the two together, to make virtue and happiness coincide. That is, there must be a God. Whatever may be thought of the validity of these arguments, the results contributed to give currency to the Kantian system among those who were repelled by the negative character of the deductions on the grounds of pure reason. A basis seemed to be laid for a practical and living faith in God, freedom, and immortality. The moral element attained such supremacy as in no antecedent system. At the same time, it may well be doubted whether, on strictly philosophical grounds, such a wide separation can

be drawn between the theoretical and practical reason. What Kant calls practical reason sometimes seems to mean reason and sometimes seems to mean will. And what ground is there, after all, for assigning a higher objective validity to the categorical imperative, than to the equally imperative and necessary ideas of the pure reason? If the former may be objective, why not the latter? If the former are necessary postulates in action, the latter are no less necessary in thought; and is action higher than thought? And beside, the introduction of happiness, as equally necessary with virtue, seems like a logical inconsequence in the system; and to make the whole proof of the divine existence rest upon the need of a harmony between virtue and happiness is certainly a restricted view, for a deity is just as necessary to harmonize and combine and unify the material and the spiritual creation in all their parts and relations.—But we must pass to another work of Kant's to see the use which he makes of these positions in relation to the highest objects of belief; that is, his "Religion within the Bounds of Mere Reason." Morality leads to religion. The three "Criticisms" of Kant all end with the idea of God. But religion as given in history contains elements which cannot be directly deduced from ethics. How much, now, of revelation (which he grants to be possible) can be confirmed by reason? 1. There is a "radical evil" in human nature; and this is not physical, but moral. This precedes all actual sin. How can this be explained? All sin must be one's own act; and yet this moral evil is before act. The difficulty can be solved only by assuming a "timeless and intelligible act." This is the inborn, radical, yet still self-produced and guilty corruption of man. (Here is the basis for the subsequent speculations of Schelling on freedom, and of Julius Müller and others on the origin of sin.) As there is this evil in us, so, in order to virtue, there must also be "a total revolution," which "may be called a new birth or a new creation;" though that this must strictly be of grace cannot be shown. 2. A reconciliation of man with God can be effected only through such a change of heart; this reconciliation is symbolized in the person and work of Christ. In Scripture, Christ represents the agony of repentance; to put on Christ is equivalent to the new life; justification means that God accepts this change of heart in view of its future fruits. 3. The victory of the good over the evil principle is seen in the kingdom of God; in the church as a visible institution. This church has the four characteristics of unity, purity, freedom, and immutability. The positive rites of this church are valuable as aids to human weakness. But in the progress of the race the faith of the church will be supplanted by a purely rational faith. The essence of the Christian revelation is found in its moral precepts; all else has only a partial and transient worth. The mysteries of religion are valuable

so far as they help the life; but they make no real addition to knowledge. The Trinity means that God should be worshipped in view of his threefold moral qualities, holiness, goodness, and justice, which are specifically different from each other. Thus, in this allegorizing method, Christianity as a rational religion is reduced to a mere theory of morals. Kant first began that construction of the truths of religion which in the later transcendentalism produced so many philosophies of religion of a much more comprehensive character. Schleiermacher disentangled the proper religions from the merely moral element; and Hegel, even in the mysteries of Christianity, found the same truths in the form of faith which his speculative system expounded in the form of philosophy.—In the third of Kant's "Criticism," that on the "Power of Judgment," he attempts an investigation of the feelings, corresponding to that of the reason in his "Criticism of Pure Reason," and to that of the desires (or will) in the "Practical Reason." Here, too, he advances beyond the limits of transcendental idealism, and hence this treatise became a starting point for subsequent explorers. The object of the work is to span the chasm between metaphysics (theoretical reason) and ethics (practical reason). Just as feeling (or pleasure and pain) stands between, mediates between reason and the will, so the faculty of judgment, which relates to the feelings, is to mediate between the theoretical and practical reason. This reconciliation is effected by means of the idea of a final cause or design. This idea is found equally in the two spheres subjected to the faculty of judgment, viz.: that of aesthetics, and that of teleology, or final causes in nature. 1. *Aesthetics* has to do with the beautiful and the sublime. The beautiful has no real existence in nature; it is the harmony between the imagination and the understanding. The sublime is an attempt to lay hold of the vast in nature; it does not exist in nature, but in the soul, struggling toward the infinite. The highest aspect of aesthetics is as a symbol of moral good. 2. *Teleology*. The objects of nature are all shaped for some design or end. Such instances of design are of two kinds, external and internal. Mere external adaptations might be the result of mechanism; not so the adaptations or designs which we find in organized beings. Here all the parts are both means and ends; no mechanical law, but only a rational designer, can explain this. Nature cannot be understood excepting on this principle. By this principle of a design immanent in nature, Kant passed the boundaries of a merely subjective idealism, to which other parts of his system were always tending. Fichte developed it on the subjective side; Schelling restored nature, or the objective, to its rights. The latter (*Phil. Schriften*, i. a. 114) says that "there were perhaps never so many deep thoughts compressed in so few leaves as in §76 of the 'Criticism of the Judgment.'"—Beside his larger works and essays,

Kant also wrote many minor treatises, sufficient to have made a literary reputation for most men. In 1784 he published an essay entitled "Ideas about Universal History in a Cosmopolitan Point of View;" and in 1795 a "Project of Perpetual Peace." A severe review in 1785 of Herder's "Philosophy of History," called out the *Metakritik* of that philosopher; Herder was too cautious, courtly, and vague to suit the views of the rigid moralist and metaphysician. The end of the history of the world, according to Kant, is the formation of the most perfect state constitution. Man, though free, is still bound to nature, and exists as a race. Every generation is a means of educating and developing the next generation; and man in the use of his freedom makes the powers of nature subservient to humanity. Perpetual peace among the nations can be insured only by a federation of free states. Publicity is necessary to political life, and the highest good and progress of the state. The human race, as a whole, he contends, is in a constant progress to a better state. In later times this is proved by the general sympathy in the French revolution. (This is contained in his work on the "Strife of the Faculties.") Morals will penetrate more and more into political life, and shape the destiny of the race.—This rapid and condensed outline of the works of Immanuel Kant, though necessarily imperfect, may be sufficient to show the comprehensiveness and subtlety with which he penetrated into the most abstruse regions of thought. The influence of his speculations began to be felt at the same time that the French revolution was changing the face of Europe, and when old chaos seemed to have again revisited the earth. Materialism was predominant in France; in Scotland, Reid was combating scepticism on the principles of common sense; and an abstract dogmatism ruled the German mind. Here was a philosopher who, with unmatched analytic and synthetic powers, came forward to show to each previous and prevalent system its metes and bounds. Against the materialist and the sceptic, he proved that the mind had its *a priori* principles of knowledge; against the dogmatist, he maintained that the sphere of the supersensible, though a reality, is not disclosed to positive thought. He proved that empiricism is right so far as it asserts that the matter of our ideas is drawn from without, but wrong so far as it implies that their form can also there be found. And he is allied with the principle of the common sense philosophy in ascribing an absolute validity to those moral ideas by which life is and must be guided. The utterances of this practical reason are true and valid, whatever may be the difficulties of the theoretical reason. We must live and act in view of God, freedom, and immortality. His philosophy became the starting point for the most remarkable development of speculation since the days of the Greeks. German speculation was thoroughly quickened. Those that opposed Kant and those that espoused his views

equally acknowledged his greatness. Reinhold at first defended, and then modified his system. Schulze, Beck, and Bardili tried to bring it into more popular forms. Krug wrote a new "Organon," and Fries a new "Criticism of the Reason." Hamann, Herder, and Jacobi developed their systems, which made faith the basis of philosophy, with constant reference to the principles of Kant. Herbart's positive philosophy claimed to have the true key to the Kantian metaphysics. Fichte unfolded his subjective idealism as the only logical result of the critical philosophy. And even in some of the latest products of German speculation there are not wanting attempts to show that Kant has not been superseded by any of his successors.—As a teacher of philosophy in the university, the object of Kant was, as he himself declares, not so much to give a system as to habituate his pupils to self-reflection. The teacher should not give thoughts, but lead to thought; he should not carry, but guide, his hearers; and hence the profounder parts of his system were rarely expounded to his classes. He was very simple in his whole style of lecturing. His voice was feeble, and only gradually rose with his subject. A few notes on bits of paper, or text books marked in the margin, were his materials. He always began on a subject as if thinking it out for himself; announced his topic, gave provisional explanations, illustrated it in a great variety of aspects, and thus led his hearers along with him. He despised all the arts of the rhetorician. In developing his ethical theory he often rose to the highest degree of moral earnestness, speaking to the soul against all selfishness and in favor of liberty; and then he seemed, says one of his hearers, "as if inspired by a divine flame." To aid his thoughts he would fix his attention closely on some one auditor, and judge by him whether he was understood. Once a button on a student's coat, which he had made his fixed point of vision, being lost, disconcerted the philosopher and interrupted the lecture. A tower on which he used to gaze in his reveries at home having become hidden by the growth of trees, he could not rest until the foliage was cut away. He was always kind to the students, but, from principle, would not remit their fees, lest they might lose their sense of independence. Tempting offers were made to him to quit Königsberg (a double salary at Halle in 1778 by his friend the minister Von Zedlitz), but he did not care for the money, and disliked all change. In fact, he never went more than 40 miles from his native city. In his person he was slightly built, not much over 5 feet in height; his chest was hollow, and his right shoulder, like that of Schlegelmacher, projected much above the other. His features were fine and delicate; his complexion was light; his blue eyes expressed animation and kindness; a high and broad forehead indicated his thoughtful and speculative turn; and the lower part of the countenance showed a tenacious vitality.—The external life of the philosopher, who was

thus probing the depths of human consciousness, was one of the utmost regularity and simplicity. The "sage of Königsberg" pursued his daily avocations in as fixed a routine as that of the humblest artisan or workman. In fact, it almost seems as if his definite theory of morals shaped his whole career. He was never married; metaphysics was the passion of his soul. Summer and winter he rose at 5 o'clock in the morning, not once failing to do so for 80 years. Two hours were spent in study, and two in lectures; and then he studied and wrote till his early dinner at one o'clock. This meal was the great event of the day; and he ate it leisurely, almost always in the society of friends. After dinner he would walk for an hour or two, spend the evening in society or lighter reading, revise his lectures for the next day, and be in bed before 10 o'clock. In general society in his earlier life he was sometimes odd, but also genial and animated. He was a capital listener, and dexterous in drawing out the knowledge of others; but he could tell a good story, and commented on all matters of literary, philosophical, or political interest, with freedom and thoughtfulness. Often a curt phrase, a satirical remark, or a sally of wit would prevent or close a long discussion. In general literature his reading was very large; the English and French classics were familiar to him; and of all writers perhaps he was most fond of Rousseau, whose portrait was the only one that adorned his plain mansion. Of poetry he was never enamored, though a great admirer of Milton's "Paradise Lost." In the history of philosophy he was less versed than in many other parts of literature; considering, in fact, dogmatism, scepticism, and his own system to contain about all that could be well said on speculative matters. Kant was warmly enlisted in all that concerned the general interests of humanity and of justice. In his political views he sympathized with the most thoughtful spirits of the age. "Liberty, law, and public power are the elements of all social life. Law and liberty without power are anarchy; law and force without liberty make a despotism; force alone is barbarism; liberty and law, joined with force, make the republic; the only good civil constitution, which is not necessarily a democracy." He was opposed to involuntary servitude, and to a hereditary nobility. Man, he says, is born free. His great political idea was that there must be a separation of the powers in the state in order to a true social order. Princes he held to be for the people, and not the people for princes. He was also a zealous advocate of the freedom of opinion and the freedom of the press. "Liberty of thought is nothing without the liberty of speech and of writing. . . . To take away the power of freely expressing opinions is to deprive us of the only remedy for the evils which afflict humanity. . . . The prohibition of books of science and of pure theory is an offence against mankind." In his religious views, the feeling of pure obligation, of an inexorable duty, was paramount; in

fact, the sense of duty was so strong as to leave little room for the religious sentiments. His ethical theory made obligation supreme, and left to the affections a subordinate place. His moral formulas are abstract; love was not to him the chief of the virtues. He was the stoic of the 18th century. His general theory of religion, too, was abstract; nor did the positive truths of Christianity as a redemptive system modify either his metaphysical or ethical theories. He gave to German rationalism a strong impulse, in making the merely moral element supreme. So far as he could, he modelled his own life upon the principles of a rigid code of ethics. He abhorred all deceit and lying; he was upright and honest in the minutest matters; every day, every hour had its appointed work. "Whoever will tell me a good action left undone, him will I thank, though it be in the last hour of life." And in the last hour of his life he could say: "My friends, I do not fear death; I assure you before God, that if I was sure of being called away this night, I could raise my hands to heaven, and say, God be praised!" No one who has lived long in the world, he used to say, would be willing on any account to begin and live his life over again. He was benevolent from principle, often giving away nearly as much as the sum required by his own frugal household. Strict economy enabled him to lay up enough for a comfortable old age. Though a warm friend, he did not like to visit those who were sick, nor to talk about the dead. He was most careful of his own life and health; by rigid rules he kept his frail body in tolerable health, never having had a severe illness till worn out by advanced age. In 1802 his powers began to fail rapidly, and he permitted a physician to be summoned. He had frequent falling fits; his sight gradually became dim; his conversation was often incoherent. A few days before his death, he thanked his medical adviser, adding: "I have not yet lost my feeling for humanity."—The best editions of Kant's works are the two most recently published, viz.: that of Hartenstein (10 vols., Leipzig, 1838-'9), and that of Schubert and Rosenkranz (11 vols., Leipzig, 1840-'42). The latter contains a full biography by Schubert, and a "History of the Kantian Philosophy" by Rosenkranz. His life was written in 1804 by Borowsky, and by Jachmann in letters; his last years were described by Wasiansky (1804). G. S. A. Mellin, in 1797, published an "Encyclopædic Dictionary of the Kantian Philosophy," in 6 vols. His philosophy was introduced into Holland in 1792, by Paulus von Hemert; and there elucidated by Von Bosch in 1798, and Kirker in 1800. Schmid and Phiselderk published an exposition of it at Copenhagen, 1796-'8. It was also taught in Hungary and Poland. In Italy it was criticized by Galuppi in 1819, and later by both Rosmini and Gioberti. Charles Villers published a valuable essay on it in French, in 1801; and J. Höhne another treatise in 1802. Destutt de Tracy commented on his metaphysics before the academy; Degerando

in his "Comparative History" (1804), and Mme. de Staël, in her "Germany" (1818), gave a fuller account of it. Schön's "Transcendental Philosophy" was published in 1831. Cousin in 1842 devoted to it a course of lectures (translated by Henderson into English, 1854), and Barchon de Penhoen wrote a "History of German Philosophy" (1886). The best French account is in J. Willm's "History of German Philosophy" (4 vols., 1847), a work crowned by the French academy; the first volume and half of the second are taken up with the critical philosophy. Charles de Rémusat, in 1847, wrote a valuable report on this "History" for the academy of moral and political sciences. Beside the historical accounts, J. Tissoit has translated into French the "Pure Reason" (2d ed. 1845); "Logic" (1840); "Metaphysics of Law" (2d ed. 1858), and "of Morals" (3d ed. 1854); the "Metaphysics," edited by Pollitz (1843); and "Anthropology" (1854). Trullard in 1841 gave a French version of "Religion within the Bounds of Reason;" Barni in 1846 of the "Criticism of the Judgment," and in 1848 of that of the "Practical Reason," beside a critical examination of these works (1850 and 1851), and the "Metaphysical Elements of Law" with the "Project on Perpetual Peace" (1855). Born published in Latin *Kantii Opera* (8 vols., Leipzig, 1796); Kunhardt, a Latin version of the "Prolegomena to every future System of Metaphysics" (Helmstädt, 1797); and G. L. König, *Elementa Ethica* (Gotha, 1800). The first English work on Kant was a "General and Introductory View," by Nitzsch (London, 1796.) Others are: James Sig. Beck (translated by an auditor), "Principles of the Critical Philosophy" (London, 1798); Willich's "Elements of the Critical Philosophy" (London, 1798); "Kant's Essays and Treatises" (2 vols., 1798); Wirgman's "Principles of the Kantian Philosophy" (1824); J. W. Semple, "Kant's Metaphysics of Ethics" (1837); John Richardson, "Metaphysical Works of Kant" ("Logic," "Prolegomena to Metaphysics," "Proofs of God's Existence," and "Theodicy," 8vo., London, 1836; printed in 1819); an "Analysis of Kant's Critick of Pure Reason," by the translator of that work (8vo., London, 1844; the translation appeared in 1841). Another and better version of the "Critique of the Pure Reason," by M. D. Meiklejohn, was published in Bohn's "Philosophical Library" (1855). An account of his system is given in J. D. Morrell's "Historical and Critical View of the Speculative Philosophy of the Nineteenth Century" (last ed. 1856), with which may be compared Wirgman in the "Encyclopædia Londinensis," and the article in the "Encyclopædia Britannica." The best accounts in German are by Mirbt, Rosenkranz, Michelet (*Geschichte der letzten Systeme*), Ritter (*Geschichte der Philosophie*), and Erdmann (*Geschichte der neueren Philosophie*).

KANTEMIR. See CANTEMIR.

KAOLIN. See CLAY.

KARAJITCH, VUK STEFANOVITCH, a Servian

scholar, born in Trshitch, a village of northern Servia, in Nov. 1787. He was educated in Carlovitz, in the Austrian Military Frontier, and subsequently visited Vienna, where he devoted himself to literary pursuits, being compelled by a feeble constitution to choose a quiet occupation. Having returned to his native country at the beginning of its struggles for independence under Ozerny George, he served as secretary to various national chiefs, most of whom were ignorant of the art of writing, and also as secretary of the national senate at Belgrade. When Servia was left to the mercy of the sultan by the treaty of Bucharest, Karajitch sought refuge in Austria (1813); and again repairing to Vienna, he was persuaded by another Slavic scholar to collect the beautiful popular songs of the Illyrian tongue, which had been partially made known in Europe by some imitations by Herder, Goethe, and others. He performed a part of his task with zeal and ability, travelling for the purpose in Bosnia and Montenegro, and his collection of *Narodne Srpske pjesme* ("Popular Servian Songs," 4 vols., Vienna, 1814-'33) was hailed with general enthusiasm. They went through numerous translations, including one by "Talvj" (Mrs. Robinson, *Volklieder der Serben*, Halle, 1825-'6), and by John Bowring ("Servian Popular Poetry," 1827). Continuing his activity, Karajitch published a Servian grammar, which was translated by Jacob Grimm, a Servo-German dictionary, a literary almanac under the title of *Danitea* ("Dawn," 1826-'34), a collection of "Servian Popular Proverbs," and another of "Servian Popular Tales," the last of which was translated by his daughter Wilhelmine Karajitch into German. Among his minor productions is a life of Prince Miloah of Servia, and a work in German, *Montenegro und die Montenegriner*. In his Servian writings, which exercised a great influence among the southern Slavi, Karajitch made use of a system of orthography founded on the Russian alphabet, a fact which has been greatly regretted by the friends of the linguistic system of Gaj, introduced with the object of uniting the various dialects of the Illyrian tongue into one common literary language.

KARAK, a small rocky island in the Persian gulf, in lat. 29° 14' N., long. 50° 20' E., about 15 m. in circumference and 80 m. from Bushire. It affords a safe anchorage, especially during the prevailing N. W. gales. The soil is fertile and the water is good, but there is no timber. The Dutch erected a fort here in the middle of the 18th century, but were soon compelled to evacuate the island. From 1838 to 1841 it was occupied by the English, and again, Dec. 4, 1856, when the expedition against Persia landed on its S. E. coast. Near the fort is a village, which under the Dutch rule contained some 4,000 inhabitants. The population now is about 1,000, including many skilful pilots.

KARAMSIN (properly KARAMZIN), NICOLAI, a Russian historian, born in a village of eastern Russia in 1765, died in the Tauridan palace near

St. Petersburg, June 8, 1826. He studied in Moscow, served for about 2 years in the imperial guards, travelled in Germany, Switzerland, Italy, France, and England during the first period of the French revolution, and after his return to Moscow in 1792 devoted himself with great zeal to literature. He successively edited the "Moscow Journal," the "Aglaiia," a "Poetical Almanac," a "Pantheon of Foreign Literature," and a "Pantheon of Russian Literature," and was an active contributor to the "European Messenger." Among his own writings of that period were poems, prose sketches of various kinds, translations from the English, French, and German, a eulogy on Catharine II., and his "Letters of a Russian Traveller" (1797-1801), which were received with great enthusiasm. He exercised a marked influence upon the language and literary taste of his country at that period, and his merits were amply rewarded by the public, as well as by the government. In 1803 Alexander I. appointed him historiographer of Russia. The fruit of his continued and untiring critical research was the "History of Russia" from its earliest period down to the time of the accession of the house of Romanoff, in 12 volumes, the last of which was completed by others after his death. This great product of Russian scholarship, which has been translated into various languages, is generally admired for the mass of its details and descriptive beauties, and by those who read it in the original also for the elaborate elegance of its style; but the uniform elaboration bestowed upon it by the author deprives it of the charms of an artistic whole, and the veil of patriotic embellishment which is thrown over times and scenes of Russian barbarism leaves little room for regretting that the work was interrupted at a point where adulation of the imperial house of his patrons would certainly have led the author to still greater deviations from historical truth. The success of the work, the publication of which occupied the last 10 years of Karamsin's life, was unprecedented in Russia. Alexander appointed him imperial councillor in 1824; and after the sudden death of that czar at Taganrog, in the following year, his successor Nicholas bestowed on him an annual pension of 50,000 rubles, revertible to his widow and children, and put an imperial frigate at his disposal to carry him to Italy for the restoration of his shattered health. Before Karamsin, however, could make use of the latter mark of imperial distinction, death ended his career.—His youngest son, ANDREI, commander of a regiment of hussars, fell in a battle against the Turks near Karakal, in Little Wallachia, May 30, 1854.

KARENS, KARIAINES, KARIANS, or KAREANS, a rude people of Burmah, Siam, and parts of China, supposed to extend from lat. 10° to 28° N. They inhabit the jungles and mountainous districts, and number perhaps 85,000 or 40,000. Those on the frontiers of the British possessions, called Red Karens from the usual color of their dress, are the only portion of the people of

whom we have detailed accounts. They reckon themselves by families, and each family, though it should number 200 or 300 souls, has but one house. Their dwellings are built of stout posts and bamboo, and thatched with palm leaf. The floor consists of a matting of split bamboo, stretched over a strong timber framework which is raised 6 or 7 feet above the ground. The immense edifice is divided into compartments for eating, sleeping, and other purposes, and the inmates are under a regular patriarchal discipline, which is the only form of government recognized by this people. They have always managed to preserve their independence of the Burmese authorities. They are described as industrious husbandmen; they raise hogs and poultry, and hunt game in the forests. A long, loose, sleeveless shirt of coarse cotton is their principal article of dress, but they are fond of ornaments, which they wear on their necks, arms, and ankles. Women among them are treated with respect, and they are said to be hospitable, frank, and more virtuous than their neighbors. The Sgau or Chegaws, and the Pgho or Pgwos, are their principal tribes. These are pagans, but some of the other tribes are Buddhists. There are evidences that at some remote period they received ideas of scriptural history. They have a tradition of white messengers from the sea coming to teach them; they believe in one eternal Supreme Being; and beside the story of the creation and the deluge, they have an account of "the fruit of trial" appointed by God, of which two persons, deceived by the bad spirit, ate, and thereby became subject to age, disease, and death; and of a confusion of languages in consequence of disbelief in God. The labors of American missionaries among the Karens, which were inaugurated in 1828 by Messrs. Boardman and Judson, have been remarkably fruitful. The origin of the Karens is unknown. Some suppose them to be the aborigines of the country which they now inhabit; others, immigrants from India; and others again derive them from the north, which opinion, according to Latham, is the most probable. The same authority calls their language Burmese with notable Singhpo affinities.

KARNAK. See **THEBES**.

KARNES, a S. E. co. of Texas, drained by San Antonio and Cibolo rivers, and by several smaller streams; area, 1,004 sq. m.; pop. in 1858, 1,865, of whom 291 were slaves. It has a diversified surface, in most places undulating, and thinly timbered. The soil is a fertile sandy loam or black mezquit, and is suitable for Indian corn, wheat, and potatoes. Value of land in 1859, \$211,260. Capital, Helena. The county was formed from Bexar and Goliad in 1858.

KARPINSKI, **FRANCISZEK**, a Polish poet, born in the ancient palatinate of Brzeso Litewski about 1760, died at Karpinczyn, in the palatinate of Lublin, Sept. 11, 1828. Being educated in the time of the revival of Polish literature, he early developed a talent for poetry, and found a liberal patron in Stanislas Augustus

Poniatowski, the last king of independent Poland, who presented him with the estate of Karpinczyn. He was also conspicuous in the literary circles of the Czartoryskis at Pulawy. He wrote various dramatic works and some translations in prose, but his fame rests chiefly on his idyls, and on his poetical translation of the Psalms. His "Works" (*Dziela*) have been published in Warsaw, Breslau, and Leipsic.

KARR, **JEAN BAPTISTE ALPHONSE**, a French author, born in Munich, Nov. 4, 1808. Upon completing his education he became a teacher in the Bourbon college, Paris, and devoted his leisure to the cultivation of poetry and belles-lettres. He next attached himself to the staff of the satirical journal *Figaro*, and in 1832 published his first prose work, *Sous les tilleuls*, which was originally a metrical romance, founded on an unsuccessful love adventure of his own. It was followed by *Une heure trop tard* (1838), *La Diète* (1834), *Vendredi soir* (1835), *Le chemin le plus court* (1836), &c., the two last being revelations of his private history, a peculiarity more marked in his writings than in those of any of his contemporaries. His publications have appeared at pretty regular intervals down to the present time, that entitled *Voyage autour de mon jardin* (1845), which has been translated into English, being one of the most popular. They are pointedly written, and exhibit invention and a pleasant vein of satire. His labors as a journalist have also been considerable. In 1839, while he was editor in chief of the *Figaro*, he established a monthly magazine of a satirical character entitled *Les guêpes*, the freedom of the literary criticisms in which excited the displeasure of several of his contemporaries, one of whom, an authoress, in revenge made an attempt upon his life in 1844. After the revolution of 1848 he was an unsuccessful candidate for the constituent assembly from the department of Seine-Inférieure. Of late years he has resided in Nice, where he devotes himself chiefly to horticulture, a subject on which he has written extensively.

KARS, a fortified city of Turkish Armenia, capital of a pashalic of the same name, situated on a rugged plain, 6,000 to 7,000 feet above the sea, on the river Arpa, or Arpachai, a tributary of the Aras or Araxes, 95 m. N. E. from Erzroum; pop. 12,000. It is defended by ramparts surrounded by a ditch, and has a strong citadel, and some works on the hills N. of the city. It is a place of transit for goods and produce to and from the interior and eastward. It has suffered much from the chances of war. Formerly it contained 6,000 houses, but now has not over half that number. It was taken by the Russian general Paskevitch in 1828, and occupied for two years. In the Russian war of 1854 it was garrisoned by the Turks under the nominal command of Vassif Pasha, really directed by the Hungarian Gen. Kmety (Ismail Pasha) and the British Gen. Williams, and was besieged by a Russian force under Gen. Muravieff. After 2 months' investment the Russians

attempted to carry it by assault. Four times they captured the redoubts, but being dislodged by the bayonet, they retired after 7 hours' fighting, leaving 8,000 dead. On Nov. 29 the place surrendered from famine. Vassif, 8 other pashas, Gen. Williams, and the garrison were made prisoners, the Hungarians having been permitted to retire. At the close of the war the Russians gave up the place in accordance with the treaty of Paris.

KASAN, or **KAZAN**, an E. government of European Russia, bounded N. and N. E. by Viatka, E. by Orenburg, S. and S. W. by Simbirsk, and W. by Nijni Novgorod; area, 24,000 sq. m.; pop. in 1856, 1,482,085. The surface is generally flat, but in parts undulating and hilly, the S. portion being traversed by branches of the Ural mountains. The principal rivers are the Volga and its affluent the Kama. The forests are very extensive, covering nearly half the surface. The chief trees are the pine, fir, and oak, and the woods abound in bears, wolves, and feathered game. The soil is fertile, and yields large crops of grain, hemp, flax, &c., but is not generally well cultivated. The fisheries are productive, and there are numerous distilleries, tanneries, weaving and spinning establishments, &c. The Russians form nearly one half of the population; the Tartars number about 300,000; the rest of the inhabitants are composed of Tchuvas of Finnish origin, Tcheremisses, &c. Kasan, with the adjacent governments of Pensa, Simbirsk, Viatka, and Perm, formerly constituted part of the so called Golden Horde, or the Kiptchak khanate, the country having successively been occupied by Finns, Bulgarians, and Tartars. The khanate was for centuries the terror of Russia, and resisted that power until the middle of the 16th century, when it was conquered by Czar Ivan the Terrible, and annexed as a kingdom to Russia. Under Peter the Great it was divided into 5 governments, of which Kasan is one.—**KASAN**, the capital of the preceding government and of a circle of the same name, situated on the Kasanka about 5 m. above its confluence with the Volga, lat. $55^{\circ} 47' 26''$ N., long. $49^{\circ} 21' 9''$ E.; pop. about 60,000. It consists of the fortified town (*Kreml*) and the town proper. It contains over 50 churches, 12 mosques, and several convents, and is renowned for its numerous educational and literary institutions, particularly since the foundation of a university there in 1813. It possesses many important manufactories of cloth, woollen, leather, soap, and iron, and an extensive trade, being the great emporium of the commerce between Russia and Siberia. Near Kasan is the convent of Semiosernoi, with a miracle-working madonna, the patroness of Kasan, which is annually in July brought in procession to the city and exhibited in the Kreml. Kasan was destroyed by fire in 1815 and again in 1842, but it has risen from its ashes more prosperous and better built than ever.

KASCHAU (Hun. *Kassa*), a town of northern Hungary, formerly the capital of Upper

Hungary and of the county of Abauj, now of the united counties of Abauj and Torna, as well as of one of the 5 chief divisions into which Hungary has been divided under Francis Joseph; pop. about 16,000, consisting of Slovaks, Magyars, Germans, and Jews. It is situated on the Hernád, in a beautiful valley enclosed with sloping vineyards, the produce of which, however, is greatly inferior to that of the neighboring region of Hegyalja. It is the seat of a Roman Catholic bishop and of numerous administrative and judicial officers, is one of the best built towns of Hungary, its main street rivaling those of Pesth, has important schools and other institutions, and is the chief commercial link between Pesth and Debreczin on one side and Cracow and Lemberg on the other, with all of which places it will soon be connected by extensive railroad lines, which are now in course of construction. Its manufactures are unimportant. The cathedral of Kaschau, a large structure in old Gothic, is the finest building of the country in that style. Kaschau was surrounded with walls in the latter half of the 13th century, and subsequently played an important part in the wars of Hungary, especially during the period of the struggles of the Protestants against Austria. In the last war two battles were fought before the town, on Dec. 11, 1848, and Jan. 4, 1849, in both of which Count Schlick defeated the Hungarian troops, consisting mostly of undisciplined militia.

KASHGAR, or **CASHGAR** (Chin. *Kih-shi-kou-urk*), a city of Chinese Tartary, formerly capital of an independent kingdom, 140 m. from Yarkand, situated on a river of its own name, in lat. $39^{\circ} 25'$ N., long. $76^{\circ} 45'$ E.; pop. variously estimated from 20,000 to 40,000. The rebellion of 1826-'7 is said to have reduced the population, which was once over 70,000, and impaired the prosperity of the city, which, however, retains its ancient importance as an emporium for the commerce of central Asia, and as the centre of an extensive trade and of many thriving manufactories of carpets, silks, &c. It came into the possession of China by conquest nearly a century ago.

KÄSTNER, **ABRAHAM GOTTHELF**, a German mathematician and poet, born in Leipzig, Sept. 27, 1719, died in Göttingen, June 20, 1800. He was the son of a professor, embraced in his studies almost all branches of learning, and received an appointment at Leipzig, and eventually at Göttingen, where, in accordance with the reformatory spirit which animated that university in the latter part of the 18th century, he exerted a powerful influence in delivering mathematical and natural sciences from the bondage of antiquated text books. His *Anfangsgründe der Mathematik* (6th ed. 1800), and his various other writings, inaugurated a more enlightened era of scientific study in Germany. He took a conspicuous part in the formation of the celebrated union of Göttingen poets, and by his assistance the elder Boye succeeded in introducing, through the instrumentality of the

Musenalanenach, an entirely new generation of poets to the public. His general popularity was chiefly due to his *Sinngedichte*, which show that, although inferior to many contemporary poets in genius, he was the most witty of them all. His colleague, the eminent classical scholar Heyne, pronounced an eulogium on him in 1804, fully recognizing the great services rendered by Kästner to the cause of science and literature. A portion of his epigrammatic poems were included in his "Miscellaneous Writings" (2 vols., 1788). A new edition of the whole of them appeared in 1800, and a new collection of his poetical and prose writings was published in Berlin in 1841.

KÄSTNER, KARL WILHELM GOTTLIEB, a German naturalist, born in Pomerania, Oct. 31, 1783, died in Erlangen, Bavaria, July 15, 1857. He was professor successively in the universities of Heidelberg, Halle, Bonn, and from 1821 till his death in Erlangen, and contributed much to a diffusion of knowledge of the natural sciences both as a teacher and an author. Chemistry is particularly indebted to him for many valuable works, while he endeavored to place that branch of study upon a more scientific basis; among the principal of them is *Grundsätze der Physik und Chemie* (Bonn, 1820).

KATAHDIN, or KTAADN, the highest mountain in Maine, situated in the central part of the state, about 100 m. N. from Bangor, and 6 m. N. E. from the Penobscot river. It is in a region difficult of access except by the birch canoes of the Indian, the river being the only thoroughfare through this rough territory, and its course being interrupted by frequent shoals and falls. The mountain is composed entirely of granite, which stands in abrupt walls, and is exposed in naked floors covering acres of surface. Down its sides bare spots caused by slides of rock extend from near the summit almost to the base, and present a striking feature in its appearance. The height of the mountain is supposed to exceed 5,000 feet above the level of the sea. Upon its summit are found only lichens and a few dwarfish plants; and half way down, the birch and other forest trees are but of diminutive size. It is remarkable that over the granite rocks, even to the summit, are found boulders of trap and of other rocks not belonging to the mountain, and among them pieces of sandstone containing fossil shells, such as are met with in place many miles further N. From the summit in clear weather the view extends over a country singularly rough and wild, composed of scattered mountains which rise in the conical form of granitic peaks, and among which are interspersed hundreds of lakes, many of large size, and streams without number. Most of these are navigable by the birch canoe, and are made by temporary dams to drift down the pine logs which are cut by the lumbermen in the winter, and hauled down upon the ice in readiness to be floated as this breaks up in the spring.

KATER, HENRY, an English mathematician, born in Bristol, April 16, 1777, died in London,

April 26, 1835. In his youth he spent some time in a lawyer's office, but upon the death of his father in 1794 he procured a commission in a regiment stationed in India, and was for 7 years employed upon the trigonometrical survey of that country. In 1808, while holding the rank of lieutenant, he became a student in the Sandhurst military college; and subsequent to 1814, when he retired on half pay, he occupied himself chiefly with scientific studies. Among his most important discoveries were the determination of the precise length of the seconds pendulum, the investigation of the diminution of terrestrial gravity from the pole to the equator, and his employment of the pendulum for the purpose of finding the minute variations of the force of gravity in different parts of a country, whose substrata consist of materials having different degrees of density. In the "Philosophical Transactions" of 1825-28 appeared descriptions of his "floating collimator," an instrument of great importance to trigonometers, employed to determine the position of the line of collimation in the telescope attached to an astronomical circle. He also made some ingenious experiments on the relative merits of the Cassegravi and Gregory telescopes, on which, as on many kindred subjects, he furnished interesting papers to the "Philosophical Transactions." He is the author of the greater portion of the "Treatise on Mechanics," by Lardner and Kater, in Dr. Lardner's "Cabinet Cyclopædia," and published "An Account of the Construction and Verification of certain Standards of Linear Measure for the Russian Government" (4to., London, 1832). He was a man of much mechanical as well as intellectual capacity.

KATONA, ISTVÁN, a Hungarian historian, born in Pápa, county of Veszprém, Dec. 18, 1732, died Aug. 17, 1811. At the age of 18 he entered the order of Jesuits, after the suppression of which he became professor of sacred eloquence in the college of Tyrnau, subsequently canon of Kalocsa, and eventually abbot of Monostor-on-the-Bodrog. He wrote numerous works on the history of his country, almost all in Latin, the principal of which are: *Historia Critica Primorum Hungaria Ducum*; *Historia Critica Regum Hungaria Stirpis Arpadianæ*; *Historia Critica Regum Stirpis Austriacæ*; and *Epitome Chronologica Rerum Hungaricarum, Transylvanicarum et Illyricarum*. The publication of the history of Hungary under the house of Austria, which is the most voluminous, was for some time interrupted by prohibition from the government of the emperor Francis, but it was finally brought down to the beginning of the present century.

KATRINE, Loch, a lake of Perthshire, Scotland, 9½ m. from Callander. It is of serpentine form, about 10 m. in length, and in some places nearly 2 in breadth, and is surrounded with lofty mountains and rocky ravines, displaying scenery of much grandeur and beauty. From its E. extremity flows a stream, which, after passing through the rugged defile of the Trossachs,

widens into the two minor lakes of Achray and Vennachar, and becomes the river Teith, a tributary of the Forth. This lake was formerly a favorite resort of robbers, or *caterans*, and at a little distance from its shore is a small island called Eilan Varnoch, whither the freebooters used to bring their plunder, and which is the famous "Ellen's isle" of Scott's "Lady of the Lake." From this lake the city of Glasgow is supplied with water. The works were begun by the corporation of Glasgow under authority of an act of parliament which received the royal sanction July 2, 1855, and were opened by the queen in person, Oct. 14, 1859. The quantity of water which may be drawn for the supply of the city is equal to 50,000,000 gallons daily. This has to be conveyed over a rugged and mountainous district for a distance of 84 m., in iron pipes, across numerous ravines, and through no fewer than 70 tunnels, the aggregate length of which is 13 m. Each tunnel is 8 feet in diameter, and the longest is 2,650 yards in length. There are several aqueduct bridges, consisting of iron troughs supported by abutments of rubblestone; and between Loch Katrine and the Umsdoch reservoir there are 3 wide and deep valleys across which the water is conveyed in siphon pipes 4 feet in diameter and $\frac{1}{4}$ of a mile long. The cost of the works, including compensation for land, purchase of the property of former water companies, &c., was about £1,500,000.

KATYDID (*platyphylum concavum*, Harris), an American grasshopper, named from the sound of its note. It is about an inch and a half long, the body being an inch, of a pale green color, with darker wings and wing covers; the thorax is roughened, and is shaped somewhat like a saddle; the wing covers are longer than the wings, and enclose the body in their concavity, meeting above and below like the valves of a pea pod. This "testy little dogmatist," rendered familiar by the verses of Holmes, is one of the loudest and most persevering of our native musicians; silent and concealed among the leaves during the day, at night it mounts to the highest branches of the trees, where the male commences his sonorous call to the noiseless females. The sound is produced by the friction of the taborets in the triangular overlapping portion of each wing cover against each other, and is strengthened by the escape of air from the sacs of the body, reverberating so loudly as to be heard a quarter of a mile in a still night. These insects are now comparatively rare in the Atlantic states, but in some parts of the West their incessant noise is almost insupportable to those unaccustomed to it. The perfect insect lays her eggs in September and October, depositing them in 2 contiguous rows along the surface of a twig previously prepared by her curved piercer; they resemble tiny bivalve shells, of a slate color, about $\frac{1}{4}$ of an inch long, and are 8 or 9 in each row; the young escape through a cleft in one end; the eggs are sometimes placed in nests in

the earth, where they remain until spring; they are eaten by beetles, ear-wigs, crickets, ants, &c. The young are said to be injurious to roots of grasses and grains; the adults eat the interior of flower buds and the germs of fruit. Though found on almost all trees, the balsam poplar is a special favorite. They are called grasshopper birds by the Indians, who are in the habit of roasting and grinding them into a flour, from which they make cakes, considered by them as delicacies. The katydid is interesting in captivity, and will live thus, if fed on fruit, for several weeks; like other grasshoppers, after the warm season they rapidly become old, the voice ceases, and all soon periah.

KATZBACH, a small river of Prussian Silesia, which joins the Oder on its left bank, 29 m. N. W. from Breslau, after a course of 35 m. It is noted for a victory of the Prussians and Russians under Blücher over the French commanded by Marshal Macdonald, Aug. 26, 1813. (See BLÜCHER.)

KAUFFMANN, MARIA ANGELICA, a Swiss painter, born in Chur, in the Grisons, Oct. 30, 1741, died in Rome, Nov. 5, 1807. In her childhood she evinced a remarkable taste for music and painting, which her father, himself a painter, carefully cultivated. At the age of 15 she was taken to Milan and put under the best masters in either art, and in 1763 accompanied her father to Rome. Her beauty, extraordinary accomplishments, enthusiasm for art, and fascinating manners everywhere excited an interest in her favor. Winckelmann, whose portrait she painted, in a letter written in 1764, speaks in the warmest terms of her many accomplishments, and of her intimate acquaintance with modern languages. While in Rome she painted many portraits of distinguished people. In 1765 she accompanied Lady Wentworth to England, whither her reputation had preceded her, and where she was received with every mark of attention. For 17 years she was the recipient of abundant enmoluments, and was welcomed to the most distinguished society of the kingdom. Upon the establishment of the royal academy she was chosen one of the 86 original members. In 1781 she married Signor Antonio Zucchi, an artist, and the following year returned to Rome, where she passed the rest of her life. It is said that some years previous to this she had been betrayed into marriage with a criminal impostor who assumed the title of Count Horn, from whom she procured a divorce. Her artistic merits have been the subject of discussion, and it is generally conceded that her reputation rests chiefly on the charm of her manners and conversation. She painted female heads gracefully, but was deficient in drawing and color, and her composition was often below mediocrity. Many of her works were engraved by Bartolozzi. She retained her maiden name until her death.

KAUFMAN, a N. E. co. of Texas, bounded S. W. by Trinity river, and drained by the E. fork of that stream; area, 950 sq. m.; pop. in 1858, 2,908, of whom 406 were slaves. The

surface is mostly undulating, and the S. E. part is well timbered, while the N. W. is occupied by prairies. The soil is generally good. The productions in 1850 were 80,685 bushels of Indian corn, 2,228 of oats, and 2,954 of sweet potatoes. There were 129 pupils attending public schools. Value of land in 1859, \$466,789. Capital, Kaufman.

KAULBACH, WILHELM VON, a German artist, born at Arolsen, in Waldeck, Oct. 15, 1805. In his youth he showed little inclination for the study of art, until his enthusiasm was awakened by some engravings of Schwerdgeburth and by the performance of Schiller's tragedies. Thenceforth he manifested a taste for legendary romance, and tales of the mythical German heroes, such as are current among the peasantry, some of which undoubtedly suggested several of his finest compositions. At the age of 17 he was placed at the Düsseldorf academy, then under the direction of Cornelius, who in 1825 invited him to Munich to assist in the grand series of frescoes he had recently commenced for the king of Bavaria. There he executed the cartoons of Apollo and the Muses on the ceiling of the Odeon, and the allegorical representations of Bavarian rivers and other subjects in the arcades of the Hofgarten. In these he followed very successfully the symbolic, idealized manner of Cornelius, while he succeeded in preserving an individuality of his own. His *Irrenhaus*, or "Madhouse," was executed in 1828-'9 from studies taken while he was employed some years previous in painting the chapel of the lunatic asylum at Düsseldorf. The head physician was so pleased with his work that he took him over every part of the establishment, and the impressions which the different aspects of lunacy made upon him were so vivid and terrible that it is said he could only find relief by transferring them to the canvas. This work was engraved by Merz and laid the foundation of his fame. During the next few years he was employed by King Louis in decorating the new palace at Munich, the queen's apartments especially being intrusted to him. For these he painted in encaustic and in fresco designs from the poems of Klopstock, Wieland, and Goethe, beside executing in fresco for the prince Birkenfeld a series of 16 designs illustrating the fable of Cupid and Psyche. About this time he began to give much attention to the works of Hogarth, a portion of whose spirit and manner he seems to have caught in his illustration of Schiller's *Verbrecher aus verlorener Ehre*; while in his illustrations of "Faust," his group of Bedouins, and other works, he showed an increasing tendency to combine the symbolical with the real and a close study of individual character. In 1837 appeared his "Battle of the Huns," a grand and original work suggested by an old legend, in which the spirits of the Huns and Romans who perished under the walls of Rome are described as renewing the combat in the air. This was executed in sepia for Count Raczyński. It was followed the succeeding year by the "Capture

of Jerusalem by the Romans under Titus," the cartoons of which so pleased King Louis that he commissioned the artist to paint the picture in oil. It is a work of immense size—17 feet by 19—and affords a fine example of Kaulbach's imaginative powers, and of the manner of idealizing history at present so popular with German painters. The fulfilment of the prophecies is shown in the planting of the Roman eagle on the high altar of the temple, the lamenting women, and the priests who kill themselves in despair; while the triumph of Christianity is illustrated in the angels conducting the Christians in safety from the scene of terror, and the penalty of the unbelieving in the figure of the wandering Jew pursued by demons. This picture opened to Kaulbach, who had hitherto worked almost exclusively in fresco, a new department in art, and in 1838-'9 he spent several months in the cities of northern Italy studying the oil paintings of the old masters as a preparation for his future labors. In 1845 he received the commission to decorate the vestibule and staircase of the new museum at Berlin with a series of frescoes illustrating striking passages in history. The 1st represents the building of the tower of Babel; the 2d the nations of Greece listening to the songs of Homer; the 3d and 4th are repetitions of his "Battle of the Huns" and "Capture of Jerusalem;" the 5th represents the crusaders entering Jerusalem, and the 6th the conversion of Wittekind to Christianity through the agency of Charlemagne. In addition to these, many allegorical representations of nations, in all the stages of their development, and figures of sages and heroes, fill the surrounding compartments. Above the whole runs a broad band of frieze, which the artist has filled with innumerable figures of boys who enact in their childish sports the history of human life. The whole work has employed him, with his pupils Eohler and Muhr, a large portion of each year since its commencement, and is not yet finished. Of late years he has passed his winters in Munich, and among other works has illustrated the history of art from the period of its revival to the present time in a series of frescoes for the new Pinakothek. A natural tendency in the artist to satire having manifested itself a little too openly, the work was denounced by the painter Julius Schnorr in a pamphlet as unworthy of the artist and a disgrace to the nation. In addition to the important works above mentioned, Kaulbach has found time to execute many other minor designs, and has recently devoted himself chiefly to portraits and oil painting. Among his lesser works may be mentioned his illustrations of Shakespeare and the Evangelists, and particularly of Goethe's *Reinhold Fuchs*, the humor of which is not less remarkable than the drawing of the animal figures. Since 1855 he has executed two large pictures for the king of Bavaria, the "Battle of Salamis" and the "Marriage of Alexander and Roxana," and has recently finished in fresco on the walls of the Germanic museum, Nuremberg, a large composition rep-

resenting the opening of the tomb of Charlemagne at Aix la Chapelle by Otho the Great, which he has presented to the institution. The greatest and most original of the pupils of Cornelius, he enjoys a celebrity in Germany not inferior to that of his master, and like him is now in the maturity of his fame and powers.

KAUNITZ, WENZEL ANTON, prince, count of Rietberg, an Austrian diplomatist and statesman, born in Vienna in 1711, died June 27, 1794. One of 19 children, he was destined for the church; but after the death of some of his elder brothers, he chose a worldly career, studying at Vienna, Leipsic, and Leyden. He became a chamberlain of the emperor Charles VI., travelled for some years in Germany, Italy, France, and England, and in 1785 was appointed aulic councillor of the empire. By marriage he became the proprietor of the county of Rietberg. His influence rose under the daughter and successor of Charles, Maria Theresa, when, after various and successful diplomatic missions to Rome, Turin, and Brussels, and a short administration of the Austrian Netherlands till their occupation by the French in 1746, he signed for Austria the treaty of Aix la Chapelle (1748). Shortly after he became minister of state, but soon left this position, being sent as ambassador to France, where, by his personal qualities and diplomatic skill, he secured the influence of Mme. de Pompadour for an alliance with Maria Theresa. This was effected in 1756, and the 7 years' war began, after the conclusion of which Kaunitz, who in 1758 had been appointed chancellor, was elevated to the rank of prince of the empire. He accompanied Joseph II. to the interview at Neustadt in Moravia with Frederic the Great, when the two monarchs concerted the scheme of the first partition of Poland, but against the opinion of the minister. Frederic, who had good reasons to be embittered against the able diplomatist, speaks disparagingly of him in his memoirs, though the latter was in his time regarded as the oracle of statesmen; and Joseph, whom he less successfully served in his schemes for the annexation of Bavaria, though supported by his liberal views in internal reforms, gradually withdrew his favor from the old statesman during his actual reign (1780-'90). Kaunitz gained new influence during the short reign of Leopold II., but after the accession of his son Francis (1792) he resigned his offices. A taciturn and scheming diplomatist, Kaunitz was ceremoniously grave with his equals, fond of the French language, literature, and fashions, and with a great deal of frivolity, vanity, and self-love united probity, affability toward inferiors, and fidelity to the interests of the state.

KAVANAGH, JULIA, a British authoress, born in Thurles, co. of Tipperary, Ireland, in 1824. At an early age she accompanied her parents to France, where she was educated. In 1844 she took up her residence in London, and about the same time began to write tales and sketches for the magazines. Encouraged by the success

which these met with, she published in 1847 her first book, a tale for children entitled "The Three Paths." It was followed by "Madeleine" (12mo., 1848), a story of peasant life in France, and in 1850 by a series of interesting historical sketches entitled "Woman in France in the 18th Century" (2 vols., 8vo.). In 1851 appeared her "Nathalie" (3 vols., 8vo.), in which the scene is also laid in France, and which has proved one of her most popular novels. Her remaining works are: "Women of Christianity exemplary for Piety" (8vo., 1852); "Daisy Burns" (3 vols., 8vo., 1853), "Grace Lee" (3 vols., 8vo., 1854), and "Rachel Gray" (3 vols., 8vo., 1855), which describe English society at the present day; "The Hobbies" (3 vols., 8vo., 1857); and "Adèle" (3 vols., 8vo., 1858). Miss Kavanagh resides chiefly in England, but makes occasional visits to France and other parts of the continent.

KAZINCZY, FERENCZ, a Hungarian author, born in the county of Bihar, Oct. 27, 1759, died in that of Zemplén, Aug. 22, 1831. He commenced his classical studies at the college of Patak at the age of 10, acquiring also a knowledge of various living languages, left that school in 1779, and subsequently studied law at Kaschau. On the recommendation of Count Török he was made inspector of schools, and was soon able to devote himself to literature, which he did with ardor. Like many others, he was inspired to work for the national regeneration of his people by the centralizing and Germanizing tendencies of Joseph II. (1780-'90), but no other was so fully convinced as he of the possibility or usefulness of restoring the then decayed Magyar tongue to its pristine purity, and of developing its resources to an unparalleled richness by means of new words, framed from existing roots and in accordance with the forms and spirit of the language. With Szabó and Bacsányi he edited the "Magyar Museum," and subsequently alone the "Orpheus," both literary magazines published at Kaschau. Having become implicated in the democratic conspiracy of the abbot Martinovics, he was suddenly arrested at the house of his mother in Lower Regmecz, on Dec. 14, 1794, carried to Buda, tried, and condemned to death; but while Martinovics and several of his associates were executed at Buda (1795), the sentence of Kazinczy and some others was commuted to imprisonment "till they had shown signs of sufficient penitence." He was kept in the dungeons of Buda, Brunn, Kufstein, and Munkács, and released in 1801. He married the daughter of his former protector, Count Török, and retired to a country residence in the neighborhood of S. A. Ujhely, which he named Széplalom (Fairhill), and where he spent the remainder of his life, continuing to labor for the literary progress of his country. A protracted lawsuit, however, distracted his latter years, and the savage outbreak of the Slovak peasantry in Zemplén during the prevalence of the cholera in 1831 embittered his last days. His works

which have twice been collected, contain original epistles, epigrams, sketches of travel, a tragedy, &c., beside translations from Goethe, Lessing, Larochevoucauld, Sterne, and others. He also edited the works of Zrinyi the poet, Baróczy, Dajka, and Kis, and a volume of "Hungarian Antiquities and Rarities" on grammatical subjects. In 1859 the centennial birthday of Kazinczy was celebrated throughout Hungary.

KEAN, EDMUND, an English actor, born in London, March 17, 1787 (according to the suggestion of his biographer Mr. Procter, although other accounts make the year 1789 or 1790), died in Richmond, May 15, 1888. His father is supposed to have been Edmund Kean, a person at one time in the employ of the builder of the Royalty theatre; and his mother, whose name he retained during his childhood, was Miss Ann Carey, by profession an actress, and a descendant of Henry Carey the poet. At 2 years of age, his mother having refused to keep him, he was taken in charge by a Miss Tidswell, who put him to school in London. A few years later his mother, who occasionally followed the business of an itinerant vender of perfumery, took him with her in her peregrinations, and was fortunate in bringing him under the notice of a Mrs. Clarke. He had, almost as soon as he could walk, appeared at Drury Lane theatre as Cupid in the opera of "Cymon," and had subsequently taken children's parts on the stage, where he attracted attention by his remarkable beauty and the delicacy and expressiveness of his features. His recitations from Shakespeare and his manners made so favorable an impression upon Mrs. Clarke, that he remained for two years under her protection, and received instructions in dancing, fencing, and various other accomplishments. When about 12 years of age he enrolled himself in Richardson's strolling troop, of which his mother was a member, and on one occasion at Windsor recited in the presence of George III. From the beginning of the century to the period of his first appearance in London in 1814, he was connected with strolling companies or provincial theatres, assuming every variety of character, from the leading parts in tragedy to Harlequin in the pantomime, and by very slow degrees forcing his talents into notice. In 1808 he was married, and during several years experienced many vicissitudes of fortune, being frequently reduced with his family, consisting of his wife and two children, to the verge of starvation. In 1818 Dr. Drury, the master of Harrow school, saw him act at Teignmouth, and was so impressed with his dramatic abilities that he procured him an introduction to the manager of Drury Lane theatre, by whom he was engaged for 3 years at a salary of £8, £9, and £10 per week for each successive year. He made his début on the London stage, Jan. 26, 1814, as Shylock, before a meagre audience, not particularly predisposed in his favor; but so great was his confidence in his own powers and the vigor of his personation, that at the fall of the curtain he was greeted by

applause such as had not for many years been heard in Drury Lane, his appearance, according to Hazlitt, being "the first gleam of genius breaking athwart the gloom of the stage." After his 8d performance of Shylock, the receipts from which reached an almost unprecedented sum, his articles of engagement were cancelled, and a new engagement at a far higher salary was offered to him; and not long after he received from the committee of Drury Lane theatre a present of £500, beside numerous valuable gifts from private persons. He subsequently appeared as Richard III., Hamlet, Othello, Iago, Macbeth, Sir Giles Overreach, Sir Edward Mortimer, Lear, and in various other characters, with undiminished success, and for several years was by many degrees the most eminent and popular actor on the British stage. In 1820 he made a professional tour in the United States, which at first was attended with great success; but in May, 1821, his refusal to complete an engagement in Boston in consequence of the thinness of the houses, created an excitement which led to his abrupt departure from the city. Upon returning to England, he played his usual round of characters; but after the developments respecting his criminal connection with the wife of Alderman Cox, in the action of Cox vs. Kean, Jan. 1825, in which a verdict of £800 damages was pronounced against him, he was hissed from the stage in Edinburgh and London, and never perhaps wholly recovered the public favor. In 1825 he returned to the United States, and was at first received with riot and confusion wherever he attempted to act. Having tendered an apology, he appeared in New York and Philadelphia, but was not permitted to perform in Boston or Baltimore. During this visit he was elected a chief of the Tuscarora Indians by the name of Alantenoudet. Subsequent to his return to England in 1826 his health and spirits, undermined by habits of drinking in which he had indulged almost from boyhood, and by the mortification attending his trial, gave way rapidly, and it was only by the use of stimulants that he could still act his old parts. He was unable to master a new one, forgetting the words almost as soon as he acquired them. In Feb. 1838, he was announced to appear in "Othello" with his son Charles Kean, with whom, after an estrangement of several years, the result of the father's misconduct, he had recently become reconciled. On the night of the performance he succeeded with difficulty in getting through two acts of the play, but in the 8d act, while uttering the words, "Villain, be sure," &c., he fell exhausted into the arms of his son, who acted Iago, and was borne from the stage. This was his last appearance before the public. A short time before his death he became reconciled to his wife, who had been separated from him for 7 years. Kean was short of stature, but well formed and graceful, and his eyes were singularly black and brilliant. His countenance was capable of wonderful variety and intensity of expression, and his action, which, as well as

his conceptions of character, was the result of deep study, lifted him far above the ordinary heroes of the stage. He has been called the first tragedian of his age, and probably in the delineation of passionate, impulsive characters he has not been equalled in modern times. Mr. Procter (Barry Cornwall), in his biography of Kean (2 vols. 8vo., London, 1835), sums up his dramatic qualities as follows: "As a tragedian he was decidedly of the very first order. He possessed vigor, pathos, sarcasm, and the power of communicating terror in the highest degree; and his intensity in expressing all the passions has never been approached within our recollection." The parts mentioned above are those in which he chiefly distinguished himself, although he appeared with success in many others. He was a man of impulse and of genius, and in spite of his excesses and eccentricities possessed redeeming points of character.—CHARLES JOHN, son of the preceding, born in Waterford, Ireland, Jan. 18, 1811. He was educated at Eton, whence he was withdrawn at the age of 16 in consequence of the refusal of his father to maintain him longer at school; the son having incurred his displeasure by declining the offer of a cadetship in India in order to look after the wants of his mother. In this emergency Charles Kean determined to adopt the stage as a profession, and on Oct. 1, 1827, made his début at Drury Lane theatre in the character of Young Norval. His success was not striking, and for several years he made no impression upon the public, but rather provoked unfavorable comparisons between himself and his father. In 1880 he visited the United States, and after his return to England in 1833 began by degrees to assume the position of a leading actor on the London boards. In 1839 he revisited America, returning to England in the following year, and in 1842 he was married to the accomplished actress Miss Ellen Tree. In 1845 he made a 8d visit to the United States, performing with his wife in the chief cities for upward of two years. For several years after his return he played engagements at the principal theatres in London and the provinces, and in 1851 he became the sole lessee of the Princess's theatre, where for a number of seasons he produced splendid revivals of "Macbeth," "King John," "Richard III.," "Richard II.," the "Tempest," and other Shakespearian plays. As an actor he holds a respectable position, but has inherited only a moderate share of his father's genius. In his capacity of stage manager he has exhibited good taste and abundant resources, and was for several years the director of the theatrical performances at Windsor castle. In 1859 appeared the "Life of Charles Kean," by J. W. Cole (2 vols. 8vo., London).—ELLEN (TREE), wife of the preceding, and an actress of note, born in London in 1806. She first appeared upon the stage at Covent Garden theatre, London, in 1828, and within a few years became one of the leading members of her profession, excelling both in comedy and tragedy, and maintaining on as well as off the

stage a lady-like bearing, and much refinement of manner. In Dec. 1836, she made her début upon the American stage at New York, and subsequently acted with success in the chief cities of the United States and Canada. In 1842 she was married to Mr. Charles Kean, with whom she has continued to appear down to the present time, sustaining the position of one of the leading actresses in England. Among her most popular characters are Beatrice in "Much Ado about Nothing," Rosalind in "As You Like It," Portia in the "Merchant of Venice," Viola in "Twelfth Night," Julia in the "Hunchback," Mrs. Haller in the "Stranger," &c. Few actresses have so long retained the reputation acquired in early youth, or been more respected in private life.

KEANE, JOHN, first Lord Keane, a British general, born at Belmont, co. Waterford, Ireland, in 1781, died at Burton Lodge, Hampshire, England, Aug. 24, 1844. He entered the British army as ensign in his 13th year, and during the campaign in Egypt acted as aide-de-camp to Lord Cavan. He served in Spain, where he gained the rank of major-general. In the autumn of 1814 he was appointed to command the land forces destined to attack New Orleans, but was superseded by Sir Edward Pakenham, under whom however he continued to serve, and was twice severely wounded. From 1823 to 1830 he was commander-in-chief of the West Indian army, and during a part of that period administered also the civil government of Jamaica. In 1838 he was sent to India, and in 1839 captured the fortress of Ghuznee, in Cabool, till then deemed impregnable. For this exploit he was raised to the peerage as Baron Keane, in Dec. 1839, and received from the East India company a pension of £2,000.

KEARNY, STEPHEN WATTS, an American general, born in Newark, N. J., Aug. 30, 1794, died in St. Louis, Mo., Oct. 31, 1848. He entered the army in 1812 as lieutenant in the 18th infantry, and distinguished himself in the action at Queenstown heights in the same year. He served throughout the war, and upon the declaration of peace was retained in the army as captain in the 2d infantry. In 1838 he became lieutenant-colonel of dragoons, in 1836 colonel, and in June, 1846, a brigadier-general. At the commencement of the Mexican war he commanded the "army of the West," which marched from Bent's fort on the Arkansas westward, and conquered New Mexico. Having established a provisional civil government in Santa Fé, he proceeded to California, and participated with his command in the battle of San Pascual, Dec. 6, where he was twice wounded. He subsequently commanded the sailors and marines and a detachment of dragoons in the battles of San Gabriel and the plains of Mesa, Jan. 8 and 9, 1847. For his services in this campaign he was appointed brevet major-general, his commission being dated from the battle of San Pascual. He was governor of California from March to June, 1847, but subsequently joined

the army in Mexico, where he continued until the close of the war. He died of a disease contracted in Mexico.

KEATS, JOHN, an English poet, born in London, Oct. 29, 1795, died in Rome, Feb. 27, 1821. His father married the daughter of the proprietor of a livery stable, by whom he received sufficient means to afford his children the rudiments of a good education. John at an early age was sent with his brothers George and Thomas to Mr. Clarke's school in Enfield, where he remained until his 15th year. The 8 boys are said to have manifested an unusually belligerent disposition, but John, according to the testimony of one of his schoolfellows, "combined a terrier-like resoluteness with the most noble placability." He could also conceive passionate attachments, and upon the death of his mother hid himself for several days in a nook under the master's desk, utterly inconsolable. He seems to have been careless of the ordinary school distinctions, but read with avidity, though in a desultory manner, whatever authors attracted his fancy. He never advanced in his classical studies beyond Latin, and his knowledge of Greek mythology was derived from Lemprière's dictionary and Tooke's "Pantheon"—a singular fact, considering the thoroughly Hellenic spirit which imbues some of his works. In 1810 he was removed from school, and apprenticed for 5 years to a surgeon in Edmonton, but still continued his intimacy with the family of his preceptor, between whose son, Charles Cowden Clarke, and himself a warm friendship always subsisted. The young men read Spenser together, and Keats, who, Mr. Clarke writes, "ramped through the scenes of the romance like a young horse turned into a spring meadow," felt the first impulse to original composition. His earliest known verses are the lines "In Imitation of Spenser," and the influence of his favorite is discernible in many of his subsequent poems. About the same time he became acquainted with Homer through Chapman's translation, which he read with equal enthusiasm, commemorating his emotions in the noble sonnet, "On first looking into Chapman's Homer." Upon the completion of his apprenticeship he removed to London to "walk the hospitals," and made the acquaintance of Leigh Hunt, Haydon, Hazlitt, Godwin, and other well known literary men, incited by whose praise he published a volume of poems, comprising sonnets, poetical epistles, and other small pieces, which excited little attention. He soon perceived that the profession of a surgeon was unfitted for him, both on account of his extreme nervousness in the performance of operations, and of the state of his health; and in the spring of 1817 he was induced by symptoms of consumption, the hereditary disease of his family, to make a visit to the country. During this absence from professional duties he commenced his "Endymion," which, with some miscellaneous pieces, was published in the following year. Keats had allied himself with a political and literary coterie obnoxious to the "Quarterly Review" and "Blackwood's Magazine," and the appearance of a volume of poems by a new writer of the "cockney school" was the signal for an attack upon him by these periodicals, the bitterness of which savored more of personal animosity than of critical discernment. The insulting allusions to his profession, his private affairs, and his family, however, aroused in the poet no other feeling than contempt or indignation; and if we may judge from his letters, far from being crushed in spirit by the virulence of his reviewers, as was generally believed, he would have been much more inclined, in accordance with his boyish propensities, to inflict personal chastisement upon them if he had met them. Byron in the 11th canto of "Don Juan," and Shelley in his "Adonais," have apparently confirmed the notion that his sensitive nature on this occasion received a shock from which it never recovered; but it is certain that the effect of the criticism has been greatly exaggerated. His health was failing rapidly, but from other causes than his enemies or his admirers supposed. His younger brother's death in the autumn of 1818 affected him deeply, and about the same time he experienced a passion for a lady of remarkable beauty, the effect of which upon a frame worn by disease was fatal. His little patrimony became exhausted, and he began to think of making literature his profession. While preparing a 8d volume for the press he was attacked with a violent spitting of blood, which his surgical training at once informed him was arterial. After a long illness he recovered sufficiently to think of resuming his literary avocations, but found his mind too unstrung by sickness and the passion which had such an influence over him. In this emergency he had nearly determined to accept the berth of surgeon in an Indian man, when a return of the previous alarming symptoms made it apparent that nothing but a winter in a milder climate would offer a chance of saving his life. Before his departure he published the volume containing his odes on the "Nightingale" and the "Grecian Urn," the poems of "Lamia," "The Eve of St. Agnes," "Isabella," &c., and the magnificent fragment of "Hyperion," of which Byron said it "seems actually inspired by the Titans and as sublime as *Æschylus*." Jeffrey in the "Edinburgh Review" spoke discriminately and kindly of the poet, regretting that his works had not sooner been brought to his notice. In Sept. 1820, Keats left England with Mr. Severn, a young artist and a devoted friend, who never left his bedside. He lingered a few months at Naples and Rome, and died at the latter place after much physical suffering. A few days before his death he said that he "felt the daisies growing over him." He was buried in the Protestant cemetery in Rome, near the spot where Shelley's ashes were afterward interred; and upon his tomb was inscribed the epitaph, dictated by himself: "Here lies one whose name was writ in water." His poems have

been often republished, and at present enjoy a popularity not inferior to that of any of his contemporaries. The best edition is that of Moxon (1 vol. 12mo.), containing a biography of the poet by R. Monckton Milnes. His modest hope that "after his death he would be among the poets of England," has been realized to a far greater extent than he could have anticipated; and his influence can be traced in the poetic development of many later writers.

KEBLE, JOHN, an English divine and poet, born about 1790. He was graduated at Oriel college, Oxford, in 1810. For some years he filled the office of professor of poetry at that institution, but since his appointment to the vicarage of Hursley, in Hampshire, his life has been chiefly passed in the duties of the ministry, and in literary pursuits. He was one of the contributors to the famous "Tracts for the Times," which appeared between 1834 and 1836. He was also one of the editors of the Oxford "Library of the Fathers" (89 vols.). His principal poetical works are: "The Christian Year: Thoughts in Verse for the Sundays and Holidays throughout the Year" (2 vols., Oxford, 1827); "Lyra Innocentium, or Thoughts in Verse on Christian Children;" and "The Psalms of David translated into English Verse."

KECSKEMET, or **KETSKEMET**, a Hungarian town on the railway from Pesth to Szegedin, 63 m. from the former city; pop. 86,000. It contains churches for the Roman Catholics, Protestants, and Greeks, a synagogue, and various educational institutions. It has soap manufactories and tanneries, a lively trade in horses and cattle, and 5 annual fairs. It was the largest market town of the whole Austrian empire until 1857, when it was invested with the privileges of a city.—The Kecskemét heath is a desolate and sandy region, stretching for about 200 m. through the circles of Pesth and Little Oumania between the Danube and the Theiss. One may ride half a day upon it without meeting a habitation or a tree.

KEENE, the shire town of Cheshire co., N. H., situated on the left bank of Ashuelot river, at the junction of the Cheshire and Connecticut river railroads, 93 m. N. W. from Boston; pop. in 1859 estimated at 5,000. The village is pleasantly situated, is well built, and laid out with great regularity, the principal streets radiating from a central square, on which stands a handsome new court house. The town hall, a high school, and 3 banks are the other principal buildings. There are several excellent district schools, 2 weekly newspaper offices, and 5 churches (Baptist, Calvinistic, Methodist, Roman Catholic, and Unitarian). An active trade is carried on, and the town has several manufacturing establishments, including a woollen mill, a manufactory of various kinds of machinery, and a steam factory of doors, sashes, and blinds, chiefly for the Australian and Californian markets. The first permanent settlement in the town was made in 1753.

KEENER, JOHN CHRISTIAN, D.D., an Amer-

ican Methodist clergyman, born in Baltimore, Md., Feb. 7, 1819. He entered the Wesleyan university, Middletown, Conn., when that institution was opened under Dr. Fisk, and was graduated there in 1834. He was a wholesale druggist in Baltimore till 1840, when he became a preacher. In 1854 he received the degree of D.D. from Lagrange college, Ala. He is the author of "Post Oak Circuit," a book of wit and wisdom on church finances that has had an extensive circulation. He now resides in New Orleans.

KEIGHTLEY, THOMAS, an Irish author, born about 1800. He is a graduate of Dublin university. Having while young lost his fortune, and being excluded by ill health from the learned professions, he went to London to devote himself to literature. In this, as he declares in the preface to a revised edition of his "Fairy Mythology," he was in every respect very successful. The "Fairy Mythology," by which he is most popularly known, was his first work. It was followed by the "Mythology of Ancient Greece and Italy" (2d ed., London, 1838), "Tales and Popular Fictions," and "Outlines of History," the last being compiled for Lardner's "Cabinet Cyclopædia." By the advice of Dr. Arnold of Rugby he next undertook a series of compendiums, embracing a "History of England," "History of India," "History of Rome," and "History of Greece." Most of these works have been frequently reprinted, and several have been republished in the United States and translated into foreign languages. A revised edition of the "Fairy Mythology" was published by H. G. Bohn (London, 1850). Mr. Keightley has also written "Scenes and Events of the Crusades."

KEILHAU, BALTHAZAR MATHIAS, a Norwegian geologist, born near Christiania, Nov. 2, 1797, died there, Jan. 1, 1858. He officiated for many years as professor of mineralogy in the university of that city, and, by his explorations, teachings, and writings, contributed much to diffuse a knowledge of the geological formation of Norway. He founded the mineralogical museum in the university of Christiania, and was actively engaged in various public duties until 1856, when declining health compelled him to retire.

KEILL, JOHN, a Scottish mathematician and natural philosopher, born in Edinburgh, Dec. 1, 1671, died in Oxford, Sept. 1, 1721. He was educated at Edinburgh and Oxford, where he delivered private lectures on the Newtonian philosophy. In 1700 he became assistant Sedleian professor of physics at Oxford, and in 1708 was chosen fellow of the royal society of London. In 1709 he was appointed treasurer to the Palatines, German emigrants whom the government was sending to New England, and whom he accompanied thither. On his return in 1710, he succeeded Mr. Caswell as Savilian professor of astronomy at Oxford. In 1711 he was appointed by Queen Anne decipherer of state papers. He was a fierce assailant of Dr. Burnet, Leibnitz, and the other opponents of the Newtonian theories. He was the author of many learned

works, the most important of which are: *Introductio ad Veram Physicam* (1701), and *Introductio ad Veram Astronomiam* (1718). The best edition of his works is that of Milan (1742).

KEITH (GEORGE KEITH-ELPHINSTONE), Viscount, a British admiral, born at Elphinstone, East Lothian, Scotland, Jan. 12, 1746, died at his seat in Tulliallan, Perthshire, March 10, 1828. He was the youngest son of the 10th Baron Elphinstone, and entered the navy in his 15th year. In 1775 he received the commission of post-captain, and soon after, in command of the frigate *Perseus*, was employed on the American station, participating in the British attack on Bunker hill, and in the capture of Fort Mifflin in the Delaware, Nov. 15, 1777. In 1793 he served under Lord Hood at the reduction of Toulon, and in 1795, as rear admiral of the white, took possession of Cape Town, and subsequently conquered Ceylon, Cochin, Malacca, and the Moluccas. He completed his services in the East by capturing, in Aug. 1796, off Saldanha bay, a Dutch squadron, which had been despatched for the recovery of the Cape Colony. Upon his return to England in 1797 he was created an Irish peer as Baron Keith of Stonehaven Marischal. In 1799 he took command of the fleet in the Mediterranean, and in March, 1800, blockaded Genoa, then occupied by a French army under Masséna, until its surrender to the Austrians. He subsequently co-operated with Abercrombie in the military operations in Egypt. He continued in active service until after the battle of Waterloo, and for several years held command of the channel fleet as admiral of the white. It was owing to his disposition of his cruisers along the coast of France that Napoleon was induced to surrender himself a prisoner. In 1814 he was created Viscount Keith of the United Kingdom, having since 1801 been a baron of like name. Previous to his elevation to the peerage he was on several occasions a member of the house of commons. His 2d wife, born in 1762, died March 31, 1857, was the eldest daughter and co-heir of Henry Thrale, the friend of Dr. Johnson, from whom she received her education. He left no sons, but his baronial honors have descended to his elder daughter by his first wife, the present Baroness Keith, wife of Count Flahaut. (See FLAHAUT DE LA BILLARDERIE.)

KELAT. I. The capital city of Beloochistan, and of a province of its own name, situated on the declivity of a hill called Shah Mirdan, about 6,000 feet above the sea, in lat. 29° 8' N., long. 65° 45' E.; pop. about 12,000. It is surrounded by an earth wall 18 feet high, flanked with bastions. In the vicinity is a district that produces large quantities of fruit. A number of Afghan merchants reside at Kelat, and carry on a considerable trade with Sindh, Bombay, and Candahar. The chief manufactures are muskets, swords, and spears. Kelat was captured by the British in 1839, and again in 1840, and was retained by them until 1841. II. A valley of Persia, in the province

of Khorassan, extending E. and W. about 60 m., and N. and S. about 15 m.; pop. 8,000. It is surrounded by steep mountains, whose precipitous sides are scarped externally, and have a mural appearance, while internally care has been taken to add to their natural inaccessibility, and to make descent into or escape from the valley equally impracticable. At a little distance from the principal range of hills is a lesser range, and intervening between the two a deep ravine which serves the purpose of a ditch. There are two entrances to the valley, one at the E. and one at the W. extremity, which are narrow and intricate, and have been so fortified as to be impregnable. They are denominated the "gates of Kelat," and over each gate is a tower, where sentinels are continually posted. The valley is highly cultivated. The khan of Kelat is an independent chieftain, and has at his command a standing force of 1,000 horse and 2,000 foot.

KELLERMANN, FRANÇOIS CHRISTOPHE, duke of Valmy, a French soldier, born in Strasbourg, May 30, 1735, died in Paris, Sept. 12, 1820. Enlisting as a private in 1752, he served during the 7 years' war and obtained the rank of captain. In 1771 he was among the French officers sent to Poland to assist the confederates of Bar, and fought bravely at the battle of Oradow. In 1785 he had reached the rank of brigadier-general. On the breaking out of the revolution he espoused the popular cause, and in 1791 was appointed to the command of the army in Alsace. He succeeded in keeping the Austrians from that province and Lorraine; and in 1792, having joined Dumouriez, he won, in conjunction with him, the battle of Valmy, by which the Prussians were expelled from the French territory. In 1793 he commanded the army of the Alps, and defeated the Piedmontese, thus bringing about the surrender of Lyons. Notwithstanding his services, he had become unacceptable to the commissioners of the convention, and was consequently dismissed from his command, arrested, and imprisoned for 13 months. After the 9th Thermidor, being reinstated in command of the army on the Alps, which amounted to but 47,000 men, he successfully opposed the repeated attacks of 150,000 Piedmontese and Austrian troops. Although he took no part in the revolution of the 18th Brumaire, Bonaparte appointed him a senator; and on the establishment of the empire he was made a marshal, received the title of duke of Valmy, and held important commands from 1804 to 1813. On the restoration he evinced his readiness to serve the Bourbons, and took a seat in the chamber of peers, where he favored liberal measures.—FRANÇOIS ÉTIENNE, son of the preceding, born in Metz in 1770, died June 2, 1835. He early received a commission in a cavalry regiment. In 1791 he was attached to the embassy of Chevalier de Ternant to the United States, where he spent two years. He returned to France to become aide-de-camp to his father, and lost his position after the siege of Lyons;

but his well known patriotism saved him from imprisonment, and he reëntered the army as a private. On the 9th Thermidor he resumed his former rank, served as adjutant-general under Bonaparte in 1796, and afterward under Masséna, distinguished himself at Bassano, Arcole, and La Favorite, was sent to Paris to present the standards taken from the enemy to the directorial government, and was appointed brigadier-general. In 1800 he accompanied the first consul to Italy at the head of a brigade of cavalry, and participated in the battle of Marengo, where by a well timed charge he decided the victory; he was rewarded by promotion to the rank of general of division. In 1805 he fought brilliantly at Austerlitz, where he was severely wounded. He served in Spain from 1807 to 1812, in Germany in 1813, and in France in 1814, and finally distinguished himself in the engagements that preceded the battle of Waterloo. On the return of the Bourbons he withdrew from the service. He succeeded his father as a peer, and like him inclined to liberal opinions. He wrote two pamphlets in answer to some incorrect statements of the duke of Rovigo about the battle of Marengo, and left *Mémoires*, upon which his son has constructed a history of the campaign of 1800.

KELLGREN, JOHAN HENRIK, a Swedish poet, born in Floby, West Gothland, Dec. 1, 1751, died April 20, 1795. He studied at the university of Abo, and in 1774 went to Stockholm, where he established a journal, the *Stockholms Posten*, in which he combated the French taste then prevailing in Sweden, and introduced to his countrymen the literature of England and Germany. In 1786 Gustavus III. appointed him a member of the newly established Swedish academy, and also made him his private secretary and librarian. His poems, embracing 4 operas which have all the merit of regular historical dramas, were published in Stockholm in 1796, under the title of *Samlade Skrifter*, or "Collected Writings."

KELLY, ALFRED, a public-spirited citizen of Ohio, born in Middletown, Conn., Nov. 7, 1787, died in Columbus, O., Dec. 2, 1859. He received his education in New York, and was prepared for the bar under the tuition of Judge Jonas Platt. In 1810 he removed to Cleveland, O., then a small hamlet, and practised his profession there for several years. He was one of the first advocates of the internal improvement of the state by canals; and when that policy was adopted, he was appointed one of the commissioners to carry it into effect, and was intrusted with the superintendence of one of its most important lines, that connecting Lake Erie with the Ohio river. In 1840 he was appointed one of the canal fund commissioners, having charge of the funds necessary to prosecute the various enterprises in which the state was then engaged, and to pay the interest on the public debt. Between the years 1836 and 1848 the finances of the state had become greatly deranged, and fears were entertained that its obli-

gations could not be met. By Mr. Kelly's exertions, with little aid from others, and on his personal responsibility, a large sum of money was obtained which was applied in discharge of the public debt, and he was ever afterward esteemed as the saviour of the honor of the state. He was chosen by several railroad companies to direct and superintend the construction of their roads, and was repeatedly a member of the general assembly of Ohio, in which he originated many important measures.

KELP, the commercial name for the crude soda ash, obtained from the incineration of certain sea plants. (See *ALGÆ*, *BARILLA*, *FUCUS*, *IODINE*, and *SODA*.) It is also the common name of a sea plant of the genus *salicornia*.

KEMBLE, the name of a family distinguished in the annals of the British stage. I. ROGER, the founder of the family, born in Hereford, March 1, 1721, died in 1802, was during a great portion of his life an actor and the manager of provincial companies. He had 12 children, of whom the eldest was the celebrated Mrs. Siddons. (See *SIDDONS*, SARAH.) II. JOHN PHILIP, eldest son of the preceding, born in Prescott, Lancashire, Feb. 1, 1757, died in Lausanne, Switzerland, Feb. 26, 1823. He was educated at a Roman Catholic seminary in Staffordshire and at the English college at Douay in France, and made his first appearance upon the stage, for which he showed a remarkable inclination, in the tragedy of "Theodosius," Jan. 8, 1776. In 1783 he first acted at Drury Lane, of which theatre he became manager in 1790. From this time until his retirement he stood at the head of his profession. In 1803 he became a part owner of Covent Garden theatre, which he managed prosperously until its destruction by fire in 1808. The opening of the new theatre in the succeeding year under his management was the signal for a series of disgraceful tumults, known as the O. P. ("old price") riots, excited by the increased prices required for admission. For upward of 60 nights Kemble and the members of his family were obliged to endure every species of insult; but a compromise was finally effected, and the theatre was liberally and successfully managed until Kemble's retirement from the stage, June 23, 1817, an occasion commemorated by the poet Campbell in one of his most finished odes. The latter part of his life was passed in Lausanne, whither he had retired for the benefit of his health. In the personation of the dramatic heroes Cato, Coriolanus, King John, Wolsey, Macbeth, and Lear, he had no rival among contemporaneous actors; and in characters of a reflective cast generally he is probably still unequalled on the English stage. As a manager he is distinguished for many splendid revivals of Shakespeare's plays. In private life he was highly esteemed. III. GEORGE STEPHEN, brother of the preceding, born in Kingston, Herefordshire, May 3, 1758, died near Durham, June 5, 1822. He was intended for the medical profession, but, following his inclination, went upon the stage, and

made his *début* in London in Sept. 1788. For many years subsequently he was the manager of a provincial company. He was a good actor, but in the latter part of his life became so corpulent as to be almost incapacitated for any other part than Falstaff, which he frequently acted. IV. ELIZABETH (Mrs. Whitlock), 5th child of Roger Kemble, born in Warrington, Lancashire, April 2, 1761, died Feb. 27, 1836. She first appeared at Drury Lane theatre in Feb. 1783, as Portia. In 1785 she was married to Charles Edward Whitlock, a provincial manager and actor, and 7 years later accompanied her husband to the United States, where they performed for many years in the principal cities. Mrs. Whitlock became the most popular actress of the day in America, and in Philadelphia frequently performed before President Washington and other distinguished persons. She returned to England in 1807 with a competency, and thenceforth retired from the stage. In personal appearance and voice she is said to have strongly resembled her sister Mrs. Siddons. V. CHARLES, the 11th child of Roger Kemble, born in Brecon, South Wales, Nov. 27, 1775, died in London, Nov. 12, 1854. He was educated at the English college in Douay, and upon returning to England in 1792 received a situation in the general post office. He soon abandoned this for the stage, and, after several trials in the provinces, made his first appearance at Drury Lane in April, 1794, playing for the occasion Malcolm to John Kemble's Macbeth and Mrs. Siddons's Lady Macbeth. For several years he took only secondary parts, and by comparatively slow degrees indicated that he possessed the dramatic genius of the family. In 1800 he first appeared as a writer for the stage in an adaptation of Mercier's *Déserteur*, entitled the "Point of Honor," and subsequently he furnished many similar pieces from the German and French for the London theatres. He began meanwhile to acquire considerable repute in his profession, and was accounted one of the best genteel comedians of his time, excelling in such parts as Benedick, Petruchio, Archer, Ranger, Charles Surface, &c.; and also in that numerous class of serious characters represented by Faulconbridge, Edgar, Cassio, Mark Antony, &c., for all of which his handsome person eminently qualified him. In 1832 he made a successful tour in the United States with his daughter, Miss Fanny Kemble, and in 1840 closed his career as an actor. Shortly afterward he was appointed examiner of plays in England. VI. FRANCES ANNE (Mrs. Butler), daughter of the preceding, born in London in 1811. Her mother, long known on the English stage as Mrs. Charles Kemble, was originally a danseuse at the opera house, London, as Miss De Camp. She manifested no special predilection for the stage, but was induced, in consequence of the embarrassed circumstances of her family, to make her *début* at Covent Garden, then under the management of her father, in Oct. 1829. On this occasion she played Juliet, her father taking the part of Romeo and her

mother that of the nurse, with complete success, notwithstanding that 6 weeks previous she had no thought of embarking in a dramatic career. For the 8 succeeding years she performed leading parts in tragedy and comedy with great applause, distinguishing herself particularly in Juliet, Portia, Bianca in Milman's "Fazio," Juliet in the "Hunchback" (the latter being originally personated by her), Belvidera, Isabella, Lady Teazle, and Louise de Savoy, in her own play of "Francis the First," written when she was 17 years old, and received with great approbation. In 1832 she accompanied her father to the United States, and met with an enthusiastic reception in the chief cities. In 1834 she was married to Mr. Pierce Butler of Philadelphia, and at the same time retired definitively from the stage. Incompatibility of tastes and temperament having rendered the union an unhappy one, a separation took place at the end of a few years, and Mrs. Butler subsequently fixed her residence in Lenox, Berkshire co., Mass. Previous to this she had published her first work in prose, "A Journal of a Residence in America" (2 vols. 8vo., London, 1835; 2 vols. 12mo., Philadelphia), chiefly devoted to a description of her tour through the United States. It was followed in 1837 by a drama entitled "The Star of Seville," which was acted with success; and in 1844 she published a collection of her poems, a portion of which only had previously appeared. In 1846 she visited Europe, extending her travels as far as Italy, where her sister, Mrs. Sartoris, resided, and in 1847 published an account of her tour under the title of "A Year of Consolation." Shortly afterward steps were taken to procure a divorce from her husband, which was granted by the legislature of Pennsylvania in 1849, since which time she has resumed the name of Kemble. In the winter of 1848-'9 she commenced in Boston a series of Shakespearian readings which drew crowded audiences; and during the next two years she repeated the course in some of the principal American cities. In 1851 she returned to England, reappeared for a brief period on the stage, and after giving readings in London and other parts of the United Kingdom, made another long continental tour. In 1856 she returned to the United States, and continued at intervals to give readings in Boston and elsewhere, till Feb. 1860, when she gave her last reading in Boston, and took her farewell of the public. Her present residence is in Lenox, Mass. VII. ADELAIDE (Mrs. Sartoris), younger sister of the preceding, born in London about 1820, made a brilliant *début* at Covent Garden as an opera singer; but upon being married to Mr. Edward Sartoris, a gentleman of fortune, she retired from the stage.

KEMBLE, JOHN MITCHELL, eldest son of Charles Kemble, an English scholar and historian, born in London in 1807, died in Dublin, March 26, 1857. He was educated by Dr. Richardson, author of the "English Dictionary," and afterward at Bury St. Edmund's grammar

school, and Trinity college, Cambridge. In 1820 he visited Germany, and at this time commenced his study of the Anglo-Saxon and kindred Teutonic dialects. He became acquainted with Thiersch, the brothers Grimm, and other leading philologists and antiquaries of Germany. In 1830 he visited Spain in order to coöperate with the Spanish liberals against the government of King Ferdinand. Returning to England, he began to explore everywhere, in the British museum, and in cathedral and collegiate libraries, for manuscripts of the Anglo-Saxon period, which he deciphered with remarkable skill. His first public effort was his lectures at Cambridge on the Anglo-Saxon literature and language (1834-'5). About this time he published "The Anglo-Saxon Poems of Beowulf, the Traveller's Song, and the Battle of Finnesburgh, with a Glossary and Historical Preface," to the second edition of which he added a translation of Beowulf with a glossary and notes. From 1835 to 1844 he edited the "British and Foreign Review," and contributed thereto many valuable anonymous articles, as he did also to the *Archæologia*, the "Cambridge Philological Museum," the "Foreign Quarterly," and latterly to "Fraser's Magazine." The article on "Jäkel's Comparative Philology" in the "Foreign Quarterly" is the best known of his contributions to periodical literature. In 1839 he commenced the publication of his collection of Anglo-Saxon charters, the *Codex Diplomaticus Aevi Saxonici*. For some years he superintended the publication of several of the archæological works of the Ælfric and Camden societies. In 1849 appeared his "Saxons in England," a work which caused Jacob Grimm to say that Kemble was the first of his disciples. From July, 1849, to May, 1855, Kemble resided in the north of Germany, where he prosecuted his studies, and, as he wrote German with as much facility as his native language, contributed many essays to the "Transactions" of the archæological society of Hanover. In 1854 he was employed by the antiquarian society of Hanover to excavate the sepulchral barrows of pagan times on the heath of Lüneburg. The Celtic and Anglo-Saxon department of the Hanoverian museum attests by its opulence in urns, armor, and ornaments the success of the excavator. In 1857 appeared his last work, "State Papers and Correspondence illustrative of the Social and Political State of Europe from the Revolution (1688) to the Accession of the House of Hanover." At the time of his death he was engaged by the managers of the Manchester exhibition to form a department of Celtic and Anglo-Saxon art. His unexpected demise caused the abandonment of this design.

KEMÉNY, ZEIGMOND, baron, a Hungarian author and publicist, born in Transylvania in 1816. He studied at Zalatna and Nagy-Enyed, was early attracted by politics, and in 1840 became editor of the *Erdélyi híradó* ("Transylvanian Intelligencer"), an opposition journal of Klausenburg. At the same time he was active as one of the leaders of the liberal party in the diet

of his native country. In 1842 he retired to his country estate, and engaged in various literary works, among others *Gyulai Pál* ("Paul Gyulai"), a romance in 5 vols. (Pesth, 1846). In 1848, having removed to Pesth, he became one of the editors of the *Pesti hírlap*, and was also elected member of the diet of reunited Hungary and Transylvania. After the declaration of independence in April, 1849, he was appointed councillor in the ministry of home affairs by Szemere, and, together with his friend and colleague Anthony Csengery, intrusted with the editorship of the *Respublica*, the organ of that prime minister. After the suppression of the revolution he was arrested, but discharged, and his subsequent publications were marked by a considerable change in his political opinions. He has since continued his activity as a political writer and novelist, but chiefly as editor of the *Pesti napló*. The best of his post-revolutionary productions are the lives of the two Wesselényis and of Széchényi in Csengery's "Book of Hungarian Statesmen and Orators" (Pesth, 1850).

KEMP, JAMES, D.D., an American clergyman, bishop of the Protestant Episcopal church in Maryland, born in Aberdeenshire, Scotland, in 1764, died Oct. 28, 1827. He was graduated at Marischal college, Aberdeen, in 1786, and came to the United States in 1787. For a time he devoted himself to teaching, but ere long resolved to enter the ministry of the Protestant Episcopal church, although a Presbyterian by education. He was ordained by Bishop White, Dec. 26, 1789. The next year he became rector of Great Ohoptank parish, Md., where he remained for more than 20 years. In 1802 he received from Columbia college the degree of D.D. Two years later he was elected, though strong opposition was made, as suffragan bishop with Bishop Claggett of Maryland, it being understood that he was to succeed the latter in case he was the survivor. His consecration took place at New Brunswick, N. J., Sept. 1, 1814. The jurisdiction of Bishop Kemp was exercised especially over the parishes on the eastern shore. In 1816, however, on Bishop Claggett's death, the whole diocese came under his charge, and by his prudence and moderation he disarmed opposition and commended himself to both clergy and laity. In 1816 he accepted the provostship of the university of Maryland, and held it until the time of his death. Having had occasion to visit Philadelphia in Oct. 1827, to assist in a consecration, Bishop Kemp on his return home met with a severe internal injury by the overturning of the stage coach near New Castle, Del., and died after three days of intense suffering.

KEMPELEN, WOLFGANG VON, baron, a Hungarian mechanic and inventor, born in Presburg, Jan. 28, 1754, died in Vienna, March 26, 1806. He entered at first upon an administrative career, and became councillor of the court. He was an excellent chess player, and was frequently invited to play with Maria Theresa, who was a passionate lover of the game. Having a great mechanical genius, he in 1769 astonished Europe

with his automaton chess player. Taken to Paris in 1784, and afterward exhibited by Mr. Maelzel in England and the United States, the chess player caused an extraordinary excitement, and the problem was not explained for many years. (See AUTOMATON.) Kempelen also invented an automatic speaking human figure, which pronounced very distinctly several words, a curiosity frequently successfully imitated, and of which the maker published an explanation in his *Le mécanisme de la parole, suivi de la description d'une machine parlante, et enrichi de 27 planches* (Vienna, 1791). He wrote several German poems, *Perseus und Andromeda*, a drama, and *Der unbekannte Wohltäter*, a comedy. He was also councillor of finance of the emperor of Austria, director of the salt mines of Hungary, and referendary of the Hungarian chancery at Vienna. Full details of the mystery of the automaton chess player, with its later history, are given in an article by Prof. G. Allen of Philadelphia, in "The Book of the First American Chess Congress" (New York, 1859).

KEMPER, an E. co. of Miss., bordering on Ala., and drained by Tugeloo or Suckernoochee creek; area, 750 sq. m.; pop. in 1850, 12,517, of whom 5,378 were slaves. The soil is mostly fertile. The productions in 1850 were 504,685 bushels of Indian corn, 40,495 of oats, 175,960 of sweet potatoes, 4,444 of peas and beans, and 5,115 bales of cotton. There were 14 churches, and 297 pupils attending public schools. The Mobile and Ohio railroad passes through the county. Capital, De Kalb.

KEMPER, REUBEN, an American soldier, born in Fauquier co., Va., died in Natchez, Miss., in 1826. He was the son of a Baptist preacher, who emigrated with his family to Ohio in 1800. Reuben subsequently removed with two of his brothers to the territory of Mississippi, where they engaged in land surveying. They were the leaders in the movement to rid West Florida of its Spanish rule, and got up an expedition to Baton Rouge in 1806 from the adjacent counties of Mississippi, which failed. The Spanish authorities caused the Kempers to be kidnapped, but they were rescued by the commander of the American fort at Point Coupee. The Kempers pursued with great ferocity all who were engaged in this wrong upon them, inflicting severe personal chastisement and mutilation upon the parties. After these occurrences Reuben Kemper, the most powerful and marked of the brothers, devoted himself to the task of driving the Spaniards from the American continent. He was engaged in an attempt to capture Mobile, which failed; and on the fitting out of the formidable expedition of Gutierrez and Toledo, in 1812, against the Spanish authority in Mexico, he was assigned the rank of major, and afterward chosen colonel of the force, 500 or 600 in number, which co-operated with the Mexican insurgents. The expedition advanced into Texas, fought several bloody battles, in which Kemper and his Americans performed extraordinary feats of valor,

and won brilliant victories. Dissensions followed among the victors, between the Mexicans and Americans, and the Spaniards, taking advantage of them, put the republicans to rout. The Americans, disgusted with their allies, then returned home. Reuben Kemper was subsequently engaged under Gen. Jackson in the defence of New Orleans, was detached for important and perilous duty, and added greatly to his reputation as a soldier by his activity and efficiency. At the conclusion of the war he settled in Mississippi, and engaged in planting.

KEMPIS, THOMAS A., a German monk of St. Agnes, the reputed author of the "Imitation of Christ," born in Kempen about 1379, died near Zwolle, July 26, 1471. He was educated among the brethren of the common life at Deventer, who passed a contemplative existence in transcribing manuscripts and in religious exercises. In 1399 he entered the monastery of Mount St. Agnes, near Zwolle, of which his brother was prior, took the monastic vows in 1406, was ordained priest 6 years afterward, and in 1425 was elected sub-prior. He excelled as a copyist, and delighted to transcribe with the utmost care the Scriptures, the church fathers, and works of ascetic piety. The fame of his eloquence and fervor also was widely extended. He owes his present renown to the treatise *De Imitatione Christi*, which has been translated perhaps into every language in Christendom, but of which the authorship is doubtful. It has been ascribed to A. Kempis, Gerson, chancellor of the university of Paris, and Gersen, an Italian ecclesiastic; and the question has been debated somewhat with reference to national honor and the interests of ecclesiastical orders. The external evidences in favor of A. Kempis are the facts that he is mentioned as the author by 8 writers nearly his contemporaries, that copies exist written in his own hand, and that in one ancient copy he is stated to be the author. There is said also to be a striking likeness in style and refined piety between this and the devotional works of which he is certainly the author. The manuscripts which bear the name of Gerson are less ancient, and his fame as a mystical writer may have caused the work to be attributed to him by persons who had not heard of the retired monk of St. Agnes. There is the least evidence in favor of Gersen. A German translation of the complete works of A. Kempis, by Silbert, was published at Vienna (4 vols., 1834). The best biography is that of Mooren, *Nachrichten über Thomas à Kempis* (Orefeld, 1855). Compare Silbert, *Gersen, Gerson und Kempis* (Vienna, 1828), and Manou, *Recherches sur le véritable auteur de l'Imitation* (8d ed., Paris and Tournay, 1858). See also GERSON.

KEN, THOMAS, an English bishop, born in Berkhamstead, Hertfordshire, in July, 1637, died in Longleat, Wiltshire, March 19, 1711. He was educated at Winchester and Oxford, took orders, visited Rome in 1674 in company with his nephew, Izaak Walton, jr., and after his return in 1679 was nominated chaplain to Mary, prin-

cess of Orange, whom he attended to Holland. He was chaplain to Lord Dartmouth during the expedition against Tangier, and in 1684 became chaplain to Charles II., who subsequently raised him to the bishopric of Bath and Wells. Ken attended the king in his last illness. He administered the affairs of his diocese in peace, till he refused to read in his church the declaration of indulgence issued by the government of James II., when, together with the other 6 recusants, he was committed to the tower. When, however, after the revolution, Ken was required to swear allegiance to the new sovereign, rather than do so he suffered himself to be deprived of his bishopric, and retired into obscurity and comparative poverty for the remainder of his life. His latter days were passed at Longleat, and were chiefly devoted to study and composition. He was the author of many devotional writings, the most popular of which are his morning and evening hymns. A collective edition of his works, in 4 vols. 8vo., was published in London in 1791.—See "Life of Bishop Thomas Ken," by George L. Duyckinck (New York, 1859).

KENDAL, or **KIRKBY-KENDAL**, a market town and parliamentary borough of Westmoreland, England, 60 m. S. from Carlisle, situated in a pleasant valley on the E. bank of the Ken; pop. in 1851, 11,829. Queen Catharine Parr was born here. Kendal is an important manufacturing town, and one of the oldest in the kingdom, the woollen manufacture having been established there by Flemish weavers, on the invitation of Edward III., in the 14th century. Its green cloth seems to have been celebrated in the time of Shakespeare. On an eminence E. of the town is the ruined castle of the ancient barons of Kendal.

KENDALL, a N. E. co. of Ill., drained by Fox river and the sources of the Au Sable; area, 824 sq. m.; pop. in 1855, 10,145. It has an undulating surface diversified by woodland and prairie. The soil is uniformly fertile. The productions in 1850 were 410,986 bushels of Indian corn, 218,660 of wheat, 189,098 of oats, 14,700 tons of hay, 180,270 lbs. of butter, and 15,788 lbs. of wool. There were 8 saw mills, 1 grist mill, 10 churches, and 3,556 pupils attending public schools. The Chicago, Burlington, and Quincy railroad passes through the county. Capital, Oswego.

KENDALL, Amos, an American lawyer and statesman, born in Dunstable, Mass., Aug. 16, 1789. Until the age of 16 he worked with his father, a farmer in moderate circumstances, and enjoyed few opportunities for instruction. In 1807, after a little more than a year's preparation, he entered Dartmouth college, where in 1811 he was graduated the first in his class, notwithstanding he had been obliged to absent himself from college a large portion of each term, in order to procure the means of support by teaching school. Having studied law with W. B. Richardson of Groton, Mass., subsequently chief justice of New Hampshire, he was admitted to the bar, and in the spring of 1814

emigrated to Lexington, Ky. Finding his professional labors not immediately remunerative, he again resorted to teaching, and for several months was a tutor in the family of Henry Clay. Subsequently he established himself in Georgetown, where he received an appointment as postmaster, and in the intervals of his practice edited a local newspaper. So well did he discharge the latter duty that in 1816 he was attached to the staff of the state journal at Frankfort, called the "Argus of Western America." In this responsible position he showed himself an able political writer, and in general advocated the leading measures of the democratic party. He was also one of the earliest friends of common schools in Kentucky, and succeeded in procuring the passing of an act to district the state, and to set apart one half the profits of the bank of the commonwealth to constitute a school fund. He was a firm supporter of the election of Gen. Jackson, who, after his accession to office in 1829, appointed him 4th auditor of the treasury department at Washington. In 1835 he was promoted to be postmaster-general, and in one year succeeded in reorganizing the financial system of the department, and in freeing it from the debt with which it had been embarrassed. In 1836 he procured from congress a reorganization of the department on a plan suggested by himself, which has undergone no essential alteration since. He was retained in office by Mr. Van Buren, but retired from the cabinet in June, 1840, in order to further the interests of the democratic party in the presidential election of that year. He has never since entered public life, although a foreign mission was offered to him by President Polk, but has devoted himself chiefly to his profession. For many years he was embarrassed by a suit instituted against him by certain mail contractors, which was ultimately decided in his favor in the supreme court. Since 1845 he has assumed the entire management of Professor Morse's interest in the American electro-magnetic telegraph. He is the author of "Life of Andrew Jackson, Private, Military, and Civil," begun in 1844, but not yet completed.

KENDALL, GEORGE WILKINS, an American journalist and author, born in Amherst, now Mt. Vernon, N. H., about 1810. Having devoted several years to the acquisition of the art of printing, he travelled extensively through the southern and western states, working at his trade as a journeyman. He also worked a year or two in New York, whence in 1835 he went to New Orleans. Not long afterward he established there, in partnership with Mr. F. A. Lumsden, the "Picayune," the first cheap daily newspaper issued in New Orleans, which under his direction became a leading southern journal. With a view of recruiting his health and of gratifying a spirit of adventure, he joined the Santa Fé expedition which in 1841 set out from Austin, Texas, and of which he published an account, embracing his own captivity and sufferings in Mexico, entitled "Narrative of the

Texan Santa Fé Expedition" (2 vols. 12mo., 1844). Upon the breaking out of the Mexican war he accompanied the American forces under Taylor and Scott, and witnessed the chief conflicts during the contest. After the termination of hostilities he passed two years in Europe, superintending the publication of a costly illustrated work on the war, which appeared in 1851 in a folio volume under the title of "The War between the United States and Mexico, embracing 12 Colored Plates of the Principal Conflicts by Carl Nebel." In 1852 Mr. Kendall established a large grazing farm in Comal co., central Texas, where he has chiefly resided since that time, having retired definitively from the management of the "Picayune," although he still retains an interest in it. He has been a successful breeder of sheep, and his example and efforts have had considerable influence in developing the resources of that part of Texas.

KENDRICK, ASAHEL O., D.D., an American Baptist clergyman and Greek scholar, born in Poulteney, Vt., Dec. 7, 1809. After receiving a rudimentary education in the common schools, he went when about 18 years of age to Hamilton, N. Y., and there, pursuing his studies mainly by himself, he prepared for the junior class of Hamilton college, at Clinton. At the end of a year he returned to Hamilton, where for two years he was a teacher in the academy. He then reentered college, and was graduated in 1831. He was immediately appointed tutor in the literary and theological institution at Hamilton (now Madison university), and the next year was made professor of Greek and Latin. Released after a few years from the Latin department, he remained the Greek professor till 1850, when, on the establishment of the university of Rochester, he was called to the Greek professorship in that institution, where he still remains. In 1852 he visited Europe, attending the lectures in the university at Athens, and visiting several Italian and German universities on his way home, where he arrived in 1854. Though in clerical orders, he has never had a pastoral charge. In addition to the studies of his own department, he has also paid much attention to oriental learning. Beside numerous contributions to magazines and reviews, he has published sermons, memoirs, a volume of poems, entitled "Echoes," translated from the German, and several Greek text books, and has revised Olshausen's "Commentary on the New Testament." His last work is a memoir of Mrs. Emily C. Judson, now (1860) in press.

KENDRICK, NATHANIEL, D.D., an American Baptist clergyman, born in Hanover, N. H., April 22, 1777, died Sept. 11, 1848. Until the age of 20 he worked on his father's farm. He was baptized in 1798, and 4 years later determined to devote himself to the ministry. He now studied some of the branches of a college course under the Rev. Mr. Burroughs of Hanover, and theology under Dr. Burton of Thetford, Vt., Dr. Emmons of Franklin, Mass., and Dr. Baldwin of Boston. He was licensed by Dr. Baldwin's

church in 1803, and having preached a year at Bellingham, Mass., and declined a call to the pastoral office in that town, he was ordained pastor at Lansingburgh, N. Y., in 1805. He remained there until 1810, and at Middlebury, Vt., from that time until 1817, when he became pastor at Eaton, near Hamilton, N. Y. During all this time he had been obliged to add to his small salary as pastor an income derived from teaching, and in this manner he had prepared himself for the professorship of theology and moral philosophy in the literary and theological institution (now Madison university) at Hamilton, to which he was appointed in 1822. Here for 25 years he acted a distinguished part in the development and government of that institution. He received the degree of D.D. from Brown university in 1838. Neglecting perhaps too much the graces of literary culture, he trained himself, as his own theological instructors had done, to habits of severe metaphysical analysis. His theology was thoroughly Calvinistic, mainly of the Edwards type. He was injured by a fall in 1845, and lingered through great suffering till 1848. A memoir of his life, by his son-in-law, the Rev. S. W. Adams, D.D., is now (1860) on the eve of publication.

KENILWORTH, a parish and village of Warwickshire, England, about equidistant (5 m.) from Leamington, Warwick, and Coventry, containing the splendid ruins of Kenilworth castle. Of the original structure only a massive tower called Caesar's tower is now standing; but there are considerable remains of subsequent additions. Among these is part of the great hall erected by John of Gaunt, 86 feet in length by 45 in width, with windows on both sides, and fireplaces at either end. The walls of Caesar's tower are in some places 16 feet thick. Kenilworth was founded by Geoffrey de Clinton, treasurer to Henry I., but, having passed to the crown, was bestowed by Henry III. on Simon de Montfort, earl of Leicester. When De Montfort was defeated and killed, his adherents held it for 6 months against the king, and at length made favorable terms of capitulation. Edward II. was prisoner in it for some time. Edward III. bestowed it on John of Gaunt, who built large additions to it. When his son Henry Bolingbroke became king, it was again vested in the crown, until Queen Elizabeth bestowed it on her favorite, Dudley, earl of Leicester. Elizabeth visited it 3 times, the last in 1575, being the occasion so graphically narrated by Sir Walter Scott in his novel of "Kenilworth." The castle was dismantled in the time of Cromwell. After the restoration it belonged to the family of Clarendon, and is now the property of the family of Eardley-Wilmot.

KENNEBEC, a S. co. of Maine, traversed from N. to S. by the Kennebec river, and touched on the W. by the Androscoggin; area, 1,050 sq. m.; pop. in 1850, 58,021. It has an undulating surface diversified by numerous small lakes. The soil is highly fertile. The productions in 1850 were 296,108 bushels of Indian

corn, 81,462 of wheat, 295,257 of oats, 380,014 of potatoes, 97,496 tons of hay, 1,124,721 lbs. of butter, and 149,617 of wool. There were 78 saw and planing mills, 15 grist mills, 3 cotton mills, 5 woollen mills, 6 oil cloth factories, 3 iron foundries, 8 newspaper offices, 111 churches, and 20,658 pupils attending public schools. The Kennebec and Portland, Androscoggin and Kennebec, and Penobscot and Kennebec railroads pass through the county. Capital, Augusta.

KENNEBEC, a river of Maine, and next to the Penobscot the most important in the state. Its principal source is Moosehead lake in the N. W. part of the state, on the boundary line between Somerset and Piscataquis counties. It issues from the lake on its S. W. shore, and after a course of 20 m. receives Dead river from the right. Its direction is then changed from S. W. to S., and from this course it has but one considerable deviation, namely, in the S. part of Somerset co., where it flows 12 m. E. It enters the Atlantic in Sagadahoc co. through Sheepscot bay, an irregular indentation of the coast studded with many islands. The largest tributary of the Kennebec is the Androscoggin, which joins it 18 m. from the ocean at Merry-meeting bay. The outlets of a number of small ponds, and Sebasticook and Sandy rivers, also flow into it. The most important towns on its banks are Bath, Richmond, Gardiner, Hallowell, Augusta, Waterville, and Norridgewock. It has falls at Waterville and at 3 points above, which afford excellent motive power. Its whole length is about 150 m., in which it has a descent of 1,000 feet. Large ships can ascend it to Bath (12 m.), steamboats to Hallowell (40 m.), and small craft to Waterville (54 m.). The influence of the tide extends to Augusta, 42 m. from the sea. A dam with locks has been constructed at Augusta for the purpose of improving the navigation above that point, and increasing the water power. The structure is 584 feet long and 15 feet above ordinary high water mark, and cost \$300,000. It forms a pond 16½ m. in extent, with an average depth of 16 feet. The river is closed by ice at Hallowell from the middle of December to about the 1st of April; below Bath it is open at all seasons except during winters of unusual severity.

KENNEBUNK, a township and port of entry of York co., Me., in the S. W. corner of the state, on the sea coast and on the S. W. side of Kennebunk river, 25 m. S. from Portland; pop. in 1850, 2,650; in 1857, about 3,300. It contains 6 churches (2 Baptist, 1 Christian, 1 Congregational, 1 Methodist, and 1 Unitarian), 14 public schools, a bank, 4 or 5 saw mills, and a yarn factory. Ship building and navigation are the principal branches of industry. The registered and licensed tonnage of the district, June 30, 1858, was 18,466; 10 vessels, with an aggregate burden of 8,069 tons, had been built during the year then elapsed. The ship yards are principally on Kennebunk river, on which a lock has been constructed to enable vessels of any size to be floated down to its mouth. About

50 vessels are owned here. The town was formerly much engaged in the West India trade.

KENNEBUNK PORT, a township of York co., Me., on the N. E. side of Kennebunk river and on the sea coast; pop. in 1850, 2,706. The river forms an excellent harbor, and most of the inhabitants are engaged in maritime pursuits. They formerly had a large West India trade, but the craft now owned in the town are principally coasting and fishing vessels. Kennebunk Port and Kennebunk were once the most active seaports in Maine. The town has still some ship-building yards, and is engaged, though not largely, in the lumber trade. It contains large quarries of excellent granite. In 1859 it had 7 churches (1 Baptist, 2 Congregational, 3 Methodist, and 1 Union), 13 schools, several saw mills and grist mills, and a brass foundry.

KENNEDY, GRACE, a Scottish authoress, born in Ayrshire in 1782, died Feb. 28, 1825. She passed the greater part of her life in Edinburgh, and subsequent to 1811 was an industrious writer of works of fiction of a moral and religious character, which were greatly esteemed at home and abroad. Among the most successful were "Decision," "Father Clement," "Anna Ross," "Dunallan," "Jessie Allan," &c., nearly all of which have been translated into French and other languages. Her works were all published under an assumed name.

KENNEDY, JOHN PENDLETON, an American statesman and author, born in Baltimore, Md., Oct. 25, 1795. He was graduated at Baltimore college in 1812. In 1814 he served as a volunteer in the ranks, taking part in the battles of Bladensburg and North Point, on Aug. 24 and Sept. 12. It was his intention to enter the army, but the peace with England altered his plans. In 1816 he was admitted to the practice of the law, which he followed successfully for 20 years. In 1818 he commenced authorship, by the publication, in connection with his friend Peter Hoffman Oruse, of the "Red Book," a serial of light character in prose and verse issued about once a fortnight, and continuing two years. In 1820 he was elected to the Maryland house of delegates, and rechosen the two next years. In 1823, being appointed by President Monroe secretary of legation to Chili, he accepted the post, but saw fit to withdraw from it before the mission sailed. Taking a very strong interest in politics, and warmly espousing the cause of President J. Q. Adams, Mr. Kennedy had no opportunity for some years of exercising any public function, the city of Baltimore being devoted to Gen. Jackson; but he diligently labored with his pen in defence of his political principles. In 1830 he wrote a review of the Hon. O. C. Cambreleng's report on commerce and navigation, combating its anti-protective arguments. This reply was widely circulated, and the next year he was appointed a delegate to the national convention of the friends of manufacturing industry meeting in New York, and, in conjunction with Warren Dutton of Massachusetts and Charles J. Inger-

soll of Pennsylvania, was appointed a committee to draft an address advocating the protective policy. In 1832 he published his first novel, "Swallow Barn, or a Sojourn in the Old Dominion," descriptive of the genial and hospitable plantation life of Virginia. This work was very favorably received, and at once established the reputation of its author as a man of letters. In 1835 appeared his second novel, "Horseshoe Robinson, a Tale of the Tory Ascendency," proving the most successful of his writings. The story is of revolutionary days, the scene laid in the Carolinas, and the hero Galbraith Robinson, nicknamed Horseshoe, a real personage whom Mr. Kennedy had met in his travels in 1819. In 1838 he published "Rob of the Bowl, a Legend of St. Inigoes," relating to the Maryland province in the days of Cecilius Calvert, 2d Lord Baltimore. This romance, involving much historic detail of the religious differences of the age between the Catholic and Protestant settlers, as well as vivid pictures of the freebooters who scoured the coasts at that period, has never attracted the same interest as the other tales, although as a work of art it is not inferior to them. All three, revised and illustrated, were republished in New York in 1852. In 1838 Mr. Kennedy was elected to the house of representatives at Washington, and at once took a prominent rank among the whig members. He was chosen one of the electors in the presidential contest which resulted in favor of Gen. Harrison in 1840. In 1841 he was again elected to congress, and appointed chairman of the committee on commerce. In this position he drew up a report upon the reciprocity treaties and their effects on the shipping interest of the country, which commanded much attention. On President Tyler's abandonment of the whigs, Mr. Kennedy was appointed by a meeting of the whig members of both houses to draft a party "manifesto," which he did, defending the anti-democratic policy, and condemning the course of the chief magistrate. In 1843 he was a third time elected to congress. At the next election he was defeated by a small vote, but in 1846 he was returned to the Maryland house of delegates, and chosen speaker. In 1849 appeared his "Life of William Wirt, Attorney-General of the United States," which has passed through a second edition. In 1852, on the retirement of the Hon. William A. Graham from the post of secretary of the navy, he was appointed by President Fillmore to fill the vacancy, and in discharge of his official duties strongly advocated the Japan expedition, and the necessity of its embodying an imposing naval force. He also warmly favored Dr. Kane's second arctic voyage in search of Sir John Franklin. Since 1852 he has divided his occupations between literature, manufacturing business, and railroad interests. His occasional writings and addresses have been very numerous, the best known being "Quodlibet" and "Defence of the Whigs." He has in view the publication of various MSS.,

including notes of two visits to Europe made within the last 5 years. He is provost of the university of Maryland, vice-president of the Maryland historical society, and a member of several learned associations.

KENNET, WHITE, an English bishop, born in Dover in 1660, died in Peterborough in 1728. He was educated at Oxford university, took orders, and after various preferments was made bishop of Peterborough in 1718. He left a number of works, among which are: "Ecclesiastical Synods and Convocations historically stated and vindicated against Dr. Atterbury" (London, 1701); "The Case of Impropriations, and of the Augmentation of Vicarages and other insufficient Cures, stated by History and Law" (1704); "History of England, from the Accession of Charles I. to that of Queen Anne," published in the collection of English histories compiled by John Hughes (1706); "*Bibliotheca Americana Primordia*; an Attempt toward laying the Foundation of an American Library" (1718); and "A Register and Chronicle, Ecclesiastical and Civil" (1728). His "Life" was published in London in 1730. He also left a valuable collection of MSS., purchased by the earl of Shelburne, and now part of the "Lansdowne MSS." in the British museum.

KENNICOTT, BENJAMIN, D.D., an English divine, born in Totness, Devonshire, April 4, 1718, died in Oxford, Sept. 18, 1788. He was of humble parentage, but exhibited such capacity that certain benevolent gentlemen contributed funds to send him to Oxford in 1744. Here he so distinguished himself by assiduous study, and the publication of two popular dissertations on the "Tree of Life" and the "Oblations of Cain and Abel," that he obtained his degree of B.A. gratuitously, and before the regular time. Soon afterward he was chosen fellow of Exeter college, and in 1767 he became keeper of the Radcliffe library at Oxford. He was an eminent Hebrew scholar, and undertook to purify the Hebrew text of the Old Testament, maintaining, in an essay entitled "The State of the Hebrew Text of the Old Testament Considered," that the extant MSS. of that text contained important errors, and that the text of the standard Hebrew Bible was in many parts corrupt and erroneous. The publication of this dissertation excited a violent controversy. Among his opponents were Rutherford, professor of divinity at Cambridge, Bishop Warburton, and Horne, afterward bishop of Norwich. The prevalent opinion, however, of candid and impartial biblical scholars, both in England and on the continent, was that Kennicott had established his position. At Kennicott's suggestion a subscription of £10,000 was raised to defray the cost of making a collation of all extant MSS. of the Old Testament. Several eminent scholars engaged in the work, Kennicott himself examining and collating all the MSS. of Britain and France, and Prof. Bruns those of Germany, Switzerland, and Italy. The task occupied 9 years, during which 16 Samari-

tan and over 600 Hebrew MSS. were either wholly or in part collated; and the materials resulting from this investigation filled when transcribed 30 vols. fol. As the result of this Herculean labor, Kennicott gave to the world his *Vetus Testamentum Hebraicum cum Variis Lectionibus* (2 vols. fol., Oxford, 1776-'80), founded chiefly on the text of Van der Hooght, with which the MSS. had been compared. The poetical books are printed according to Lowth's metrical laws of parallelism; the various readings of the Hebrew MSS. are given at the foot of each page, and the Samaritan variations in columns parallel to the text.

KENNON, ROBERT LEWIS, M.D., an American clergyman, born in Granville co., N. C., in 1789, died in Columbus, Miss., in Jan. 1888. He was a descendant of the Washington family, and a near kinsman of William Kennon, one of the three who drafted the Mecklenburg declaration of independence. He received his early education under Dr. Beemon, and continued his studies at the South Carolina college. He joined the Methodist Episcopal conference of that state in 1810. Some years after ill health caused him to abandon the pulpit, and he betook himself to the medical profession. He became a successful practitioner in Georgia, was a devoted student of nature in all its various forms, and particularly devoted to the science of geology. He removed with his family to Alabama, then a territory, and is said to have been the first to call attention to its wealth in coal. Having recruited his health sufficiently to resume preaching, he planted the banner of Methodism on the banks of the Black Warrior, at a point then beginning to be settled, and which afterward became the capital of the state. He was the very soul of the itinerancy, a zealous advocate of the widow and orphan feature of that system, the patron and favorite of all the young ministers who needed a word of encouragement or a helping hand. His labors were mostly given to Mobile, Greensborough, and Tuscaloosa. In the pulpit and in the Sabbath school, at the bedside of the afflicted, in the poor man's humble cabin, or in the most refined and elegant circles, he was equally welcome.

KENOSHA, a S. E. co. of Wis., bounded E. by Lake Michigan and S. by Ill., and drained by Des Plaines and Fox or Pishtaka rivers; area, 306 sq. m.; pop. in 1855, 12,397. It has a level and thinly timbered surface, with a fertile soil resting on beds of limestone. The productions in 1850 were 100,046 bushels of Indian corn, 230,969 of oats, 68,555 of potatoes, 24,229 tons of hay, and 284,798 lbs. of butter. There were 2 saw mills, 2 newspaper offices, 12 churches, and 2,980 pupils attending public schools. The Chicago and Milwaukee, and Kenosha, Rockford, and Rock Island railroads pass through the county. Capital, Kenosha.

KENRICK, FRANCIS PATRICK, D.D., an American Catholic prelate, born in Dublin, Dec. 3, 1797. He received a classical education in the schools of his native city, and at the

age of 18, having resolved to enter the church, was sent to Rome to study philosophy and divinity. He spent 2 years in the house of the Lazarists and 4 at the college of the Propaganda, where he was ordained priest. In 1821 he came to the United States, having been chosen on the recommendation of the officers of the Propaganda to conduct an ecclesiastical seminary just established by Bishop Flaget at Bardstown, Ky. In the duties of this office he passed 9 years, visiting also from time to time the scattered missions of the diocese. He published in 1828, under the title of "Letters of Omicron to Omega," a series of letters in reply to the Rev. Dr. Blackburn, who had attacked, under the signature of Omega, the Roman Catholic doctrine of the eucharist. On June 6, 1830, he was consecrated at Bardstown bishop of Arath in *partibus infidelium*, and coadjutor to the Rt. Rev. Dr. Conwell, bishop of Philadelphia, with powers of administrator. On Dr. Conwell's death in 1842 Bishop Kenrick became his successor. It was during his episcopate that the anti-Catholic riots occurred in Philadelphia in 1844. He caused an address to be posted up throughout the city calling upon the Catholics to preserve peace and charity, and made every exertion to calm the agitation of both parties. He founded the theological seminary of St. Charles Borromeo in Philadelphia, and in 1849 introduced into his diocese the sisters of the Good Shepherd, who devote themselves to the care of Magdalen asylums. In 1851 Bishop Kenrick was transferred to the archiepiscopal see of Baltimore, made vacant by the death of Archbishop Eccleston. The pope named him "apostolic delegate" to preside over the first plenary council of the United States, convened at Baltimore in May, 1852, and in 1859 conferred upon him and his successors the "primacy of honor," which gives them precedence over all other Roman Catholic prelates in this country. Archbishop Kenrick is regarded as one of the most learned theologians of his creed in America. In 1839-'40 he published a work in the Latin language on dogmatic theology (*Theologia Dogmatica*, 4 vols. 8vo., Philadelphia), which was followed by another on moral theology (*Theologia Moralis*, 3 vols. 8vo., 1841-'3), forming a complete course of divinity, and used as text books in numerous seminaries. An enlarged edition of these works is now being printed at Mechlin, Belgium. Dr. Kenrick has also published a series of letters "On the Primacy of the Holy See and the Authority of General Councils" (1837), in reply to the Rt. Rev. John H. Hopkins, Protestant Episcopal bishop of Vermont, subsequently enlarged and reprinted under the title of "The Primacy of the Apostolic See Vindicated" (4th ed., Baltimore, 1855); "The Catholic Doctrine on Justification Explained and Vindicated" (12mo., Philadelphia, 1841); "Treatise on Baptism" (12mo., New York, 1843); and "Vindication of the Catholic Church," a series of letters in reply to Bishop Hopkins's "End of Controversy Con-

troverted" (12mo., Baltimore, 1855). He has devoted much time to biblical studies, and is engaged upon a revised English translation of the Scriptures with copious notes, which will probably supersede the Donay version. The New Testament (2 vols. 8vo., New York, 1849-'51), the "Psalms, Books of Wisdom, and Canticle of Canticles" (8vo., Baltimore, 1857), and "Job and the Prophets" (8vo., Baltimore, 1859), have already appeared; and 2 volumes more, containing the Pentateuch and the other historical books of the Old Testament, are nearly ready for the press.—PETER RICHARD, D.D., archbishop of St. Louis, Mo., brother of the preceding, born in Dublin in 1806. He was educated at Maynooth, where he was prefect. Having chosen the ecclesiastical state, he was ordained priest in Ireland, and came to Philadelphia, where his brother was already coadjutor. In Philadelphia Mr. Kenrick was employed in pastoral and literary labor; the "Catholic Herald," at the period of its highest reputation, was under his charge, and he wrote a number of translations and original works. He was also promoted to the rank of vicar-general. When Dr. Rosati, first bishop of St. Louis, was seeking a coadjutor on account of his infirmities, his attention was drawn to the brother of the coadjutor of Philadelphia, who was soon after nominated, and was consecrated bishop of Drasa in *partibus*, and coadjutor of St. Louis with right of succession, Nov. 30, 1841, at the age of 35. By the death of Bishop Rosati two years after (1843), Dr. Kenrick became bishop of St. Louis; and in the new circumscription of provinces made in 1847, St. Louis being raised to the metropolitan rank, he became the first archbishop of that city. At the commencement of his administration Bishop Kenrick found the finances of his diocese in a deplorable condition, notwithstanding its possession of an immense property in real estate, which, however, being unimproved and loaded with debt and taxation, was rather a burden than a benefit. The energetic and skilful measures by which he gradually extricated the diocese from this situation, and rendered it one of the most flourishing in the Union in a financial point of view, have acquired for him much local fame. The archbishop also received in 1858 a large bequest, partly for designated charities, partly placed unreservedly at his disposal, which has enabled him to accomplish many noble enterprises. The hospital under the care of the sisters of charity, by his munificence, has been made free, and dispenses its benefits alike to all, without distinction of faith, creed, or color. The orphanage of St. Philomena, the magnificent convents of the Visitation and the Good Shepherd, and numerous other institutions either of charity or education, attest the prosperity of the church under his government. He has adorned the environs of St. Louis with a cemetery which in beauty and extent of the grounds is one of the finest in the world. Beside a number of translations, and editions of devotional works, the

archbishop of St. Louis has published "The Holy House of Loretto, or an Examination of the Historical Evidence of its Miraculous Translation" (12mo.), and "Anglican Ordinations" (8vo.). The latter work has elicited several rejoinders; by Roman Catholics it is generally regarded as conclusive in the controversy.

KENSETT, JOHN FREDERICK, an American artist, born in Cheshire, Conn., March 23, 1818. He studied engraving under Alfred Daggett of New York, and for several years executed vignettes for bank notes, occasionally attempting painting as a recreation. In 1840 he visited England, and about 1845 resigned the burin to take up painting. In the spring of the same year he exhibited in the royal academy, London, his first picture, a distant view of Windsor castle, the purchase of which by a prize holder of the London art union encouraged him to persevere in his new profession. He subsequently passed two winters in Rome, sending home occasionally pictures of Italian scenery, several of which became the property of the American art union. His "View on the Anio" and "Shrine," exhibited at the academy of design in New York in 1848, first brought him prominently before the public, and established his reputation. After an absence of about 7 years he returned to America, and settled in New York, where he has since resided in the active practice of his profession. He has produced many representations of American scenery under various aspects, those in which rocks, trees, or water are prominent features being among his most characteristic and successful works. The mountainous regions of New England and New York, the rivers and lakes of the middle states, and the sea shore have furnished him with frequent subjects; and among his most popular works are his "View of Mt. Washington from North Conway" (1849), "Franconia Mountains" (1853), "October Day in the White Mountains" (1855), "Hudson River from Fort Putnam" (1856), "Falls of the Bashpish," "Sunset on the Coast" (1858), "Eagle Cliff, Manchester, Mass." (1859), "Sunset in the Adirondacs" (1860), views on the Genesee and Hudson rivers and Lake George, and several taken in the vicinity of Newport, R. I. In 1859 he was appointed a member of the national art commission having the direction of the ornamentation of the capitol at Washington, and the superintendence of the works of art deposited there, a position which he still holds. In 1848 he was elected an associate and in 1849 a member of the national academy of design.

KENT, the name of 4 counties in the United States. I. A central co. of R. I., bounded E. by Narraganset bay and W. by Conn.; area, 186 sq. m.; pop. in 1850, 15,068. It has a diversified surface, and a good soil drained by Flat, Pawtuxet, Moosup, and Wood rivers. A large proportion of the population is engaged in manufactures. The productions in 1850 were 57,401 bushels of Indian corn, 3,977 of oats, 85,052 of potatoes, 8,734 tons of hay, and 101,700 lbs. of butter. There were 18 cotton mills, 6 printing

and bleaching establishments, 8 woollen mills, 8 grist mills, 13 saw mills, 1 newspaper office, 80 churches, and 2,599 pupils attending public schools. The Hartford, Providence, and Fish-kill, and the Stonington and Providence railroads pass through the county. Capital, East Greenwich. II. A central co. of Del., bounded E. by Delaware bay and W. by Md.; area, 640 sq. m.; pop. in 1850, 22,816, of whom 847 were slaves. It has an undulating surface and a fertile soil drained by Choptank and Marshy Hope rivers, and Duck, Jones, Motherkill, and Mispillion creeks. The productions in 1850 were 899,079 bushels of Indian corn, 119,774 of wheat, 105,596 of oats, 67,900 of potatoes, and 19,582 lbs. of wool. There were 17 grist mills, 25 saw mills, 45 cotton factories, 8 newspaper offices, 48 churches, and 4,000 pupils attending public schools. The Delaware, New Castle, and Wilmington railroad passes through Dover, the capital of the state and county, and another railroad is in progress from that city to Oxford, on Chesapeake bay. III. A N. E. co. of Md., bounded E. by Del. and W. by Chesapeake bay, and drained by Sassafras and Chester rivers; area, 240 sq. m.; pop. in 1850, 11,886, of whom 2,627 were slaves. The surface is slightly diversified and the soil moderately fertile. The productions in 1850 were 556,781 bushels of Indian corn, 186,421 of wheat, 186,206 of oats, 44,653 of potatoes, and 856 tons of hay. There were 5 grist mills, 6 saw mills, 1 newspaper office, 37 churches, and 700 pupils attending public schools. Capital, Chestertown. IV. A W. co. of the S. peninsula of Mich., drained by Grand, Rouge, and Thornapple rivers; area, 576 sq. m.; pop. in 1850, 12,016. The surface is moderately uneven, and the soil, which is very fertile, consists of a deep vegetable loam on a substratum of clay. The country is well timbered, and contains limestone, gypsum, and salt. The productions in 1850 were 96,584 bushels of Indian corn, 69,275 of wheat, 61,041 of oats, 77,984 of potatoes, 21,972 lbs. of wool, and 8,770 tons of hay. There were 6 grist mills, 18 saw mills, 2 newspaper offices, 8 churches, and 8,518 pupils attending public schools. The Detroit and Milwaukee railroad passes through Grand Rapids, the capital.

KENT, a S. W. co. of Canada West, bounded S. E. and S. by Lake Erie, W. by Lake St. Clair, and N. W. by Big Bear creek; area, 870 sq. m.; pop. in 1851, 17,469. It is traversed by the river Thames. The surface is generally level, and the soil, especially in the river bottoms, is fertile. Wheat, maize, oats, and tobacco are the principal productions. Capital, Chatham.

KENT, a county of New Brunswick, bordering on the gulf of St. Lawrence and Northumberland strait; area, 1,600 sq. m.; pop. in 1851, 11,410. The Richibucto and Cocagne or Cocayne are the principal rivers. The coasts are broken by several good harbors, which afford excellent opportunities for ship building. Nearly half the county is unsettled, and the most valuable production is timber, which is

exported in large quantities to England. About one third of the inhabitants are French Acadians. Capital, Liverpool.

KENT, a maritime county of England, forming the S. E. extremity of Great Britain, and separated from France by the straits of Dover; length 63 m., breadth 40 m.; area, 1,627 sq. m.; pop. in 1851, 615,766. Chief towns: Canterbury, the capital, Greenwich, Woolwich, Gravesend, Rochester, Deptford, Dover, Maidstone, Hythe, Folkestone, Deal, Chatham, Sheerness, Margate, and Tunbridge Wells. The surface of the county presents a succession of gentle hills, highly cultivated and diversified with plantations, residences, and villages. Romney marsh, of 24,000 acres, occupies the S. E. angle, adjoining which is the tract of land called the Weald, once a forest. Off the E. coast are the Goodwin sands, between which and the land is the naval anchorage of the Downs. The coast of Kent consists in part of chalk cliffs, the highest of which is Shakespeare's cliff, near Dover. The principal rivers are the Thames, forming its northern boundary, the Medway, navigable 40 miles, and the Stour. Wheat and other grains, hops, fruit, and garden seeds are produced in large surplus for export. Over 20,000 acres are under hops, producing annually over 17,000,000 lbs. Estates are small, and are mostly inherited equally by all the sons of intestates under the Saxon law of gavelkind, now nearly peculiar to this county. Iron ware is made at Crayford and Dartford; paper at Boxley, Dartford, and elsewhere; printed calico at Crayford; gunpowder at Faversham and Dartford. There are chemical works at Deptford and Whitstable, and ship yards at Chatham, Deptford, and Woolwich. The south-eastern railway, from London to Dover, traverses the county. The North Kent railway also runs from London, by Woolwich and Gravesend, to Stroud. The county returns 4 members to parliament, beside 14 from its boroughs. It possesses many educational and charitable institutions. The amount expended for the relief of the poor by the board of guardians during the half year ending March 25, 1859, was about £76,000. Kent was a kingdom of the Saxon heptarchy.

KENT, EDWARD AUGUSTUS, duke of, 4th son of George III. of England, and father of Queen Victoria, born Nov. 2, 1767, died Jan. 28, 1820. He joined the British army, and was under the command of Sir Charles Grey in the attack on the French West India islands, where he was noticed for his bravery, and in compliment to him the name of Fort Royal in Martinique was changed to Fort Edward. Soon afterward he was made governor of Nova Scotia, created duke of Kent and Strathearn, with a seat in the house of lords, and appointed commander-in-chief of the British forces in North America. The island of St. John changed its name in his honor to Prince Edward island, which it still retains. Subsequently he returned to Europe, and married the widow of the prince of

Leiningen, youngest daughter of the duke of Saxe-Coburg. Alexandrina Victoria, now queen, was the only child of this union.

KENT, EDWARD, LL.D., judge of the supreme court of Maine, born in Concord, N. H., Jan. 8, 1802. He was graduated at Harvard university in 1821, studied law one year in his native place, and two years in Topsham, Me., with the Hon. Benjamin Orr, and attended in New York city a course of law lectures under Chancellor Kent. Soon after his admission to the bar he settled, in 1825, in the practice of his profession in Bangor, Me., his present place of residence, and early assumed a prominent rank as attorney and counsellor. In 1827 he was appointed chief justice of the court of sessions for Penobscot co., and from 1829 to 1833 represented Bangor and other classed towns in the legislature of Maine. He was afterward mayor of Bangor for two years, and in 1838 was elected governor of the state, in which office he served one year. After an interval of two years he was again elected, and held the office for another term. In 1843 Gov. Kent was appointed by the legislature one of the commissioners at Washington for settling the Maine boundary line, under the Ashburton treaty. In 1848 he was appointed one of the delegates at large to the convention which nominated Gen. Taylor for the presidency, and was the first to designate him as a candidate before that body. On the accession of President Taylor Gov. Kent was appointed consul at Rio de Janeiro, where he remained 4 years. In the spring of 1854 he returned to Bangor, and resumed practice. In 1859 he received from the executive of Maine the appointment of associate justice of the supreme judicial court, and now holds that office.

KENT, JAMES, an American jurist, born in Philippi, Putnam co., N. Y., July 31, 1763, died in New York, Dec. 12, 1847. His grandfather, the Rev. Elisha Kent, whose family was early established at Suffolk, Conn., became in 1740 the Presbyterian clergyman of Philippi. His father, Moses Kent, Esq., was a lawyer, and for some years surrogate of Rensselaer co. James Kent was graduated at Yale college in 1781, studied law in the office of Egbert Benson, the attorney-general of the state, was admitted in Jan. 1785, as an attorney, and in 1787 as a counsellor, and commenced the practice of his profession in Poughkeepsie. He was married in 1785. He soon became remarkable among his contemporaries for his legal learning and literary attainments. He was elected successively in 1790 and 1792 a member of the legislature for Dutchess co. The country was then excited by political discussions, arising from the adoption of the federal constitution, and Mr. Kent became an active and leading federalist, attracting the notice and confidence of Hamilton and Jay. It was by Hamilton's counsel that the reading of the young lawyer was directed to the doctrines of the civil law, and the treatises of the jurists of continental Europe; and thus he acquired the deep knowledge of the works of Pothier and Emerigon and

other civilians, which is to be traced throughout his own writings. His acquaintance with Hamilton ripened into a devoted friendship, which ended only with the life of the great federal leader. In 1798 Mr. Kent was an unsuccessful candidate for a seat in congress for Dutchess co., and in the same year removed his residence to the city of New York. He brought with him a reputation for professional learning and ability, and was appointed by Gov. Jay one of the two masters in chancery for the city of New York. In 1796 he was elected, in the federal interest, one of the city members in the legislature. He was also elected professor of law in Columbia college. Three of his lectures in this capacity, forming together an introduction to his general course, were published in 1797, and attracted the favorable notice of the legal profession. The body of his lectures were not published, but they formed in after years, in some degree, the basis of his celebrated "Commentaries." In 1797, without solicitation, on the nomination of Gov. Jay, he was appointed recorder of the city, then administering a court of civil jurisdiction; and the extraordinary ability he exhibited in the office induced Gov. Jay in 1798 to nominate him a judge of the supreme court. He continued a member of this tribunal till 1814, having been from 1804 chief justice. He was nominated to this office by the retiring judge, Morgan Lewis, who had been elected governor, notwithstanding that they were open and uncompromising political opponents. The supreme court at that time differed widely from the court as at present constituted. It was formed after the model of the English king's bench, being composed of 5 judges, who rode the circuits to try jury cases, and convened during the year at 4 appointed terms to decide reserved questions of law. Both the court and the law itself were in a rudimental state. There were no American law books, and no reports of American decisions, except those of Mr. Dallas, which were just commenced. The proceedings of the court were languid and dilatory; and resort was had for rules of procedure and principles of law almost exclusively to English precedents and decisions. The accession to the bench of a young, energetic, and able judge, produced a striking change. It was the noble and difficult task of the court to expound the principles of the common law, as applicable to American institutions; to define and limit our new constitutional provisions; to construe recent statutes; to bring the principles of commercial law to bear upon transactions of trade and commerce; to devise rules of practice; and in short to adapt to a young and rising nation a complicated yet practical code of laws. That this work was well accomplished, and that a large portion of its success must be attributed to the unremitting energy and talent of the chief justice, will appear from the reports of Mr. Parsons, and the 14 volumes, entitled "Johnson's Cases" and "Johnson's Reports," of the decisions of the supreme court during

the time of Mr. Justice Kent. By the constitution of New York as it then existed an important political duty was imposed on the judiciary of the state. The judges of the supreme court and the chancellor formed with the governor a council of revision, possessing a qualified veto on the acts of the legislature. This council was abolished by the constitutional convention of 1822, the judges themselves acquiescing in the change. They felt that, though the council was often a salutary check upon hasty and unwise legislation, the effect upon the judiciary was unfavorable, as exposing it to the influence and excitements of political parties. The recent publication of the proceedings of the council of revision displays Mr. Kent as prominent and efficient in the discharge of his political, as he had been in performing his judicial duties. His high conservative principles brought him often in opposition to an excited and dominant legislative majority, which however never failed to respect his candor and integrity. In 1814 Chief Justice Kent was appointed chancellor. Up to the time of his appointment, the court of chancery had been of secondary importance in the jurisprudence of the state. This was partly owing to the nature of its business. Complicated trusts and intricate settlements of property, which form the peculiar subjects of chancery jurisdiction, belong to an advanced period of national growth. But the proceedings of the court had been dilatory; its mode of practice was circuitous and expensive, and the court was regarded with disfavor, both by the profession and the community. The change effected by Chancellor Kent was aptly described in an address presented to the chancellor by the members of the bar, on his retirement from the office after 9 years' administration of its duties. They compared him to Lord Nottingham, the English chancellor, who was described by Blackstone as the founder of the equity system of England, and who was "enabled in the course of 9 years to build a system of jurisprudence and jurisdiction upon wise and national foundations." The 7 volumes of Johnson's "Chancery Reports" contain the decisions of Chancellor Kent, and present a profound and extended exposition of the whole system of equity law. In 1823 the chancellor was elected a member of the convention called to revise the constitution of the state. He took an active part in the discussions of this body, and displayed a power of debate remarkable for one so long retired from forensic discussions. His opinions were strongly conservative. He opposed without success the extension of the right of suffrage, and other democratic innovations; but his personal influence and character preserved for the time the court of chancery, which he believed to be a useful means of administering justice. In 1828 his official term ended; and, having attained the age of 60, he found himself, by the then existing constitution of the state, prevented from holding judicial office. Unbroken in constitution, he soon form-

ed for himself new occupations. Returning to the city of New York, whence he had removed on becoming a judge, he was reelected professor of law in Columbia college. For several years he delivered courses of lectures on law to numerous classes. These lectures he gave to the world, in his "Commentaries on American Law" (4 vols. 8vo., 1826-'80). This work has since passed through 10 editions, and has acquired a world-wide celebrity. It has assumed in the United States the position which Blackstone in his own country has long filled by his "Commentaries on the Laws of England." It embraces not merely the jurisprudence of the federal Union, but the municipal law, written and unwritten, of the several states. Vast and comprehensive in plan, elaborate and minute in research, the beauties of its style and its historical learning commend it to the general reader, while it has been proved to be the best guide to the law student, and a valuable aid to the practical lawyer. The last 25 years of Chancellor Kent's life were passed in tranquil pursuits, in enlarging and correcting his "Commentaries," in giving opinions on legal subjects, in advising and deciding on controversies submitted to his decision, and performing all the duties of an active and patriotic citizen. In 1836 he wrote and published, at the request of the common council of the city, a compendious treatise on the charter of New York, and the powers of the municipal officers. In the performance of various and important duties, in the enjoyment of his extensive library, surrounded by domestic peace and universal esteem, his years glided tranquilly on, until, having attained his 85th year, his health began to decline; and with unclouded intellect, and in the humble profession of the Christian's faith, he closed his long, useful, and honorable life. His widow survived him 8 years. He left one son (Judge William Kent of New York) and two daughters.

KENT, WILLIAM, an English painter, sculptor, and architect, born in Yorkshire in 1684, died April 12, 1748. He was of humble origin, but by the liberality of some friends was enabled to study painting in Italy, where he attracted the notice of the earl of Burlington, who gave him a home in his house. He executed the Shakespeare monument in Westminster abbey, and is considered one of the founders of the modern school of landscape gardening.

KENTON, a N. co. of Ky., separated from Ohio by the Ohio river, and bounded E. by Licking river; area, 140 sq. m.; pop. in 1860, 17,088, of whom 830 were slaves. The surface is very uneven, but the soil is fertile. Much of it is laid out in market gardens, whose products find a market in Cincinnati. The productions in 1860 were 478,545 bushels of Indian corn, 80,780 of oats, 12,544 lbs. of tobacco, and 13,561 of wool. There were 20 grist mills, 7 saw mills, 2 newspaper offices, 26 churches, and 1,418 pupils attending public schools. The Covington and Lexington railroad passes through the county. Capital, Independence.

KENTON, Simon, an American pioneer, born in Fauquier co., Va., April 3, 1755, died in Logan co., O., in 1886. At the age of 16 he had an affray with a young man arising out of a love affair; and believing he had killed his adversary, he fled beyond the Alleghanies and became a companion of Boone and the other early pioneers of Kentucky. For a time he acted as a spy of Gov. Dunmore, and subsequently participated in the warfare waged against the British and the Indians west of the Alleghanies, showing remarkable courage, sagacity, and endurance. In 1782, learning that his rival was living, he returned to his native place, and soon after removed with his father's family to Kentucky. He was frequently engaged in Indian warfare, until the expedition under Wayne in 1793-'4 restored tranquillity to the western frontier. As the country began to fill up with settlers, his lands, to which, in consequence of his ignorance of or indifference to legal forms, he had never secured perfect titles, were taken from him, and by repeated lawsuits he was reduced to penury. He nevertheless took up arms in the war of 1812, and fought with the Kentucky troops at the battle of the Thames. In 1824 he appeared in Frankfort in tattered garments to petition the legislature of Kentucky to release the claim of the state upon some mountain land owned by him. His appearance at first excited ridicule, but upon being recognized he was treated with much distinction by the legislature; his lands were released, and a pension of \$240 was procured for him from congress. He died near the spot where, 58 years previous, he had narrowly escaped death at the hands of the Indians.

KENTUCKY, an interior state of the American Union, and the second admitted under the federal constitution, situated between lat. 36° 30' and 39° 6' N., and long. 82° 2' and 89° 40' W.; bounded N. by the Ohio river, which divides it from Illinois, Indiana, and Ohio; E. by Virginia, from which it is separated by the Big Sandy river and the Cumberland mountains; S. by Tennessee and a conventional line mostly on the parallel of 36° 30' N.; and W. by the Mississippi, separating it from Missouri; greatest length E. and W. 308 m., greatest breadth 172 m.; area, 37,680 sq. m., or 24,115,300 acres, being 1.28 per cent. of the whole surface of the United States. The state is divided into 110 counties, viz.: Adair, Allen, Anderson, Ballard, Barren, Bath, Boone, Bourbon, Boyle, Bracken, Breathitt, Breckenridge, Bullitt, Butler, Caldwell, Calloway, Campbell, Carroll, Carter, Casey, Christian, Clarke, Clay, Clinton, Crittenden, Cumberland, Daviess, Edmondson, Estill, Fayette, Fleming, Floyd, Franklin, Fulton, Gallatin, Garrard, Grant, Graves, Grayson, Green, Greenup, Hancock, Hardin, Harlan, Harrison, Hart, Henderson, Henry, Hickman, Hopkins, Jackson, Jefferson, Jessamine, Johnson, Kenton, Knox, Laurel, La Rue, Lawrence, Letcher, Lewis, Lincoln, Livingston, Logan, Lyon, McCracken, Meade, Madison, Marion, Marshall, Mason, Meade,

Mercer, Monroe, Montgomery, Morgan, Muhlenburg, Nelson, Nicholas, Ohio, Oldham, Owen, Owale, Pendleton, Perry, Pike, Powell, Pulaski, Rock Castle, Rowan, Russell, Scott, Shelby, Simpson, Spencer, Taylor, Todd, Trigg, Trimble, Union, Warren, Washington, Wayne, Whitley, Woodford, and the 5 following formed during the last session of the legislature: Boyd, Magoffin, Metcalf, Webster, and Wolf. Louisville, Jefferson co., is the largest city and the commercial emporium of the state; Frankfort, Franklin co., is the political capital; Lexington, Fayette co., is the most important inland town. Maysville, Covington and Newport (on opposite sides of the mouth of Licking river, and facing Cincinnati, Ohio), Henderson, and Paducah, are the most important towns on the Ohio river, and Columbus and Hickman on the Mississippi, all of which places now or prospectively are the termini of railroads from the interior. Danville was formerly the capital of the state. Harrodsburg and Boonesborough are the oldest towns. The other most important towns in the state are Bardstown, Bowling Green, Georgetown, Glasgow, Hopkinsville, Lebanon, Paris, Russellville, Smithland, &c.—The population of the state at 7 decennial periods has been as follows:

U. S. Census.	White.	Free colored.	Slave.	Total.
1790	61,188	114	11,830	73,077
1800	179,871	741	40,248	220,860
1810	324,237	1,713	80,561	406,511
1820	484,644	2,941	174,782	662,367
1830	517,757	4,917	165,218	687,892
1840	740,208	7,817	182,258	930,283
1850	761,418	10,011	210,981	982,409

Of the white population in 1850, there were 892,804 males and 868,609 females; of the free colored (blacks 7,881, and mulattoes 2,680), 4,863 males and 5,148 females; and of the slave (blacks 181,752 and mulattoes 29,729), 105,068 males and 105,918 females. Density of population, 26.07 to a square mile; proportion of population to that of the whole Union, 4.24 per cent.; relative rank of the state with reference to population, the 8th. Decennial increase of population from 1799 to 1850: 202.86, 88.98, 88.82, 21.90, 13.36, and 25.98 per cent. Should the population have increased in the same ratio as in the decade 1840-'50, it will now (1860) amount to 1,387,684. Families in 1850 (white and free colored), 182,920, and dwellings 180,769. Of the total population (1850), 80,078 were under 1 year of age; 1 and under 5, 188,919; 5 and under 10, 151,829; 10 and under 15, 132,909; 15 and under 20, 110,886; 20 and under 30, 172,220; 30 and under 40, 105,810; 40 and under 50, 68,588; 50 and under 60, 40,764; 60 and under 70, 22,181; 70 and under 80, 9,482; 80 and under 90, 2,927; 90 and under 100, 555; 100 and upward, 157; unknown, 205. Of those of 100 or more years of age, 59 were whites, 17 free colored, and 81 slaves. White and free colored (total 771,424) born in Kentucky, 601,764; in other states, 189,117; in foreign countries, 29,189; of unknown origin,

1,854; natives of Kentucky resident in other states, 257,648. Ratio of foreign born to total, 8.78 per cent. Of 191,075 males (white and free colored) over 15 years of age, 86,598 were employed in commerce, trade, manufactures, the mechanic arts, and mining; 115,017 in agriculture; 28,413 in labor not agricultural; 204 in the army; 1,027 in sea and river navigation; 3,811 in law, medicine, and divinity; 4,420 in other pursuits requiring education; 902 in government civil service; 212 in domestic service; and 471 in other occupations. Slaveholders, 88,885, viz.: holders of 1 slave, 9,244; of 1 and under 5, 18,284; of 5 and under 10, 9,579; of 10 and under 20, 5,022; of 20 and under 50, 1,198; of 50 and under 100, 58; of 100 and under 200, 5. The relative rank of Kentucky with reference to slaves is the 9th. Deaf and dumb, 568, viz.: white 507, free colored 5, and slave 51; blind, 552, viz.: white 419, free colored 20, and slave 113; insane, 527, viz.: white 502, free colored 2, and slave 23; idiotic, 907, viz.: white 796, free colored 20, and slave 91. Paupers supported in 1849-'50, 1,126; cost, \$57,543; on June 1, 1850, 777. Criminals convicted, 1849-'50, 160; in prison, June 1, 1850, 52. Federal population (all the free and $\frac{2}{3}$ of the slave) 898,012, which entitled Kentucky to 10 representatives in congress.—The western part of the surface of Kentucky is nearly level, the broad plains being varied by gentle undulations. The S. E. is broken by the Cumberland mountains and their offshoots. Narrow, deep, and gloomy valleys intervene between the ridges. None of the summits, however, attain a greater altitude than 3,000 feet, and their mean elevation does not exceed 2,000 feet. The whole of this region is well wooded, especially the foot hills and valleys. To the N. and W. of the hilly region lies what may be called an upland, which extends from the Big Sandy river to long. 86° W. and comprehends more than half the whole area of the state. Its surface is undulating, with gentle ascents and descents, but it is intersected by numerous narrow and deep valleys in which the rivers run. Though this upland is sparingly provided with spring water, its soil is of the first quality and equal to any in the Union. The W. portion of the state is divided between the "barrens" and a country which is partially hilly. The barrens, which occupy chiefly the tract between the Green and Cumberland rivers, in their natural state are generally destitute of trees, resembling in this respect the prairies N. of the Ohio river; but the level surface is diversified by low round-topped hills, called "oak knobs" on account of the trees which cover them. This tract is the least fertile portion of the state. The alluvial bottoms between these hills and the Ohio and its affluents are exceedingly rich. On the N. and W. the barrens are margined by a more broken and hilly country, which gradually passes to the low flats which skirt the Ohio and Mississippi rivers. This tract is superior in fertility to the barrens, but cannot be compared with the upland coun-

try.—Kentucky is amply provided with noble streams. The Mississippi forms its W. limit for a distance of 80 m. Along the N. W. and N. boundary runs the Ohio in a winding course for nearly 600 m., navigable throughout, and affording with its chief affluents water communication to all parts of the state. The Mississippi receives from Kentucky only a few inconsiderable tributaries. Of the streams which flow into the Ohio, the most eastern is the Big Sandy, which rises in Virginia on the Great Flat Top mountains, a portion of the Alleghany range; where it approaches Kentucky it turns nearly due N., and continues in that direction to its outlet, forming the boundary between the two states; it is navigable only for a short distance, owing to falls which occur where it issues from the mountain region. The Licking rises in Floyd co., flows with many windings in a N. N. W. direction for more than 100 m., and falls into the Ohio between Covington and Newport, opposite Cincinnati; in winter and spring it is navigable for boats 70 m. The different branches of the Kentucky river rise in the Laurel mountains, and form by their union a considerable stream which flows first N. W., then W., and at last nearly due N.; its course is about 260 m., and though very rapid it may be navigated by steamboats to Frankfort, 60 m., and by small boats for 100 m. higher. Green river rises in the W. districts of the upland region, and flows W. for a great part of its course, to its junction with its chief affluent, the Big Barren, where it deflects to the N. W. and finally to the N., joining the Ohio about 50 m. above the Cumberland; its length is about 800 m., and it is navigable for steamboats to Greensburg, 200 m., and for boats nearly to the heads of the stream, but navigation is obstructed by falls about 50 m. above its mouth. Cumberland river rises in the valley between the Cumberland and Laurel mountains; it traverses both the mountain and the upland regions, generally in a westerly direction, but on approaching the barrens it turns S. and enters Tennessee, where it makes a large bend and then reenters Kentucky with a N. W. course, and so continues to the Ohio, which it enters about 10 m. above the mouth of the Tennessee; it is nearly 600 m. long, and as its current is comparatively gentle it offers an easy navigation for sloops and steamboats as far up as Nashville, Tenn., 200 m. from its mouth, and at high water to Burkesville, Ky.; for boats of 15 tons it is navigable for 300 m., and for river boats much higher. The Tennessee flows only about 70 m. through Kentucky; it admits steamboats to Florence, Ala., 300 m. from its mouth.—Kentucky lies wholly in the great region of stratified rocks of the West. These traverse the state in layers so nearly horizontal, that often over broad districts no dip is perceptible to the eye. Through the central portion of the state, from N. to S., the silurian groups, which are here almost exclusively calcareous in their character, thus overspread the surface for nearly 100 m. in width, and form

the great central axis of the lowest rocks. At Louisville they disappear by reason of their very gentle westward dip, and pass beneath the limestones of the devonian age, which here lie exposed in horizontal strata, forming the bed of the river and the reefs which occasion the falls at this place. They are succeeded by the carboniferous limestone, and still further W. the coal measures, commencing at Rome on the Ohio river, are traced almost to the mouth of this river. This is the southern end of the coal field of Illinois and Indiana, which extends S. nearly across the western portion of Kentucky. (See ILLINOIS.) In this portion occurs the Breckenridge coal, so well known for its excellent qualities for producing coal oil. To the E., about 100 m. from Louisville, the same repetition of the formations is encountered, as the silurian rocks dip E. on this side of the axis; and the coal measures which occupy the whole eastern portion of the state are a part of the great Appalachian coal field which overspreads western Virginia and Pennsylvania. The limestones abound in fossil remains, and those of the falls at Louisville are especially famous for the remarkably fine coralline productions they afford. When the river is low and the rocks in its bed are exposed to view, they appear like the coral reefs produced by living zoophytes, the softer portions being wasted and worn away, so that the hard calcareous corals stand out in relief precisely as if they were living. Fine selected specimens being placed in juxtaposition with others of recent growth, none but a zoologist would be able to guess which were ancient and which modern. These limestones also abound in caves, some of which, as the Mammoth cave (see CAVE), situated near Green river in Edmonson co., are among the most remarkable of these curiosities. Upon their walls are found incrustations of saltpetre, which in some instances have been profitably collected. In some of the superficial depressions of the limestone are found the low swamps known as "licks," frequented by deer and elk, and in ancient times by the buffalo, and in a still more distant epoch by the extinct species of elephant, horse, mastodon, megalonyx, &c., whose bones are occasionally found near the saline springs of these quagmires. One of the most remarkable of these localities is the Big Bone lick, 23 m. S. W. from Cincinnati. The metallic productions of Kentucky are of little importance. In 1856, 36,563 tons of iron were made from 80 blast furnaces. Lead ores have been worked to a small extent. Salt springs occur in many places among the sandstone rocks, and sulphur, saline, and chalybeate springs are numerous.—The blue limestone region, which was originally covered with forests of large trees and a dense undergrowth of reeds, contains the richest soil in the state, and that part of it between the Ohio and the vicinity of Lexington is commonly called the "garden of Kentucky." The barrens are thinly wooded, but produce good pasturage, so that the average fertility of Kentucky may be considered equal to that

of any other state in the Union. The climate is remarkably pleasant. The mean annual temperature is about 56° F.; in winter the thermometer frequently falls to 20° or 15°, and in summer rises to 94° or 100°. The winters are sometimes prolonged from late November to early April, but it is seldom that snow lies long on the ground, and in the S. counties cattle and sheep are abroad throughout the coldest seasons. In spring and summer S. W. winds prevail, and the weather is delightful. The N. W. wind produces the greatest winter cold. Rain falls abundantly in winter and spring, but is sometimes scanty in the summer and autumn, the weather in those seasons being characteristically dry and constant.—There are still extensive forests in Kentucky. In the mountain and upland region are found chiefly tulip trees, elm, oak, hickory, walnut, cherry, &c.; those of the barrens are chiefly oaks, chestnuts, and elms. Among the more generally diffused and most useful trees are the sugar maple, the honey locust, and the coffee tree, with the pawpaw and others which furnish household staples of great value. The principal fruit trees are the apple and peach. Beside being a great grain-growing state, Kentucky produces more than half of the hemp grown in the Union, and $\frac{1}{4}$ of the flax. In the S. W. districts, along the Tennessee, Cumberland, and Mississippi rivers, cotton is raised; and the tobacco which is grown in these regions and in the rich soil further E. supplies a valuable material to the commerce of the state, Kentucky producing more than a fourth part of all the tobacco grown in the United States. At the census of 1850, Kentucky contained 74,777 farms and plantations, enclosing 16,049,748 (improved 5,968,270, and unimproved 10,981,478) acres of land, or about $\frac{2}{3}$ of the whole surface of the state. The cash value of these was \$75,814,898, and the cash value of implements and machinery used in agriculture was \$11,576,988. The live stock in the state consisted of 815,682 horses, 65,609 asses and mules, 247,475 milch cows, 62,274 working oxen, 442,768 other cattle, 1,102,091 sheep, and 2,891,168 swine—in all valued at \$29,661,486; and the value of animals slaughtered in the census year was \$6,462,598. The product of animals in the same year consisted of 9,947,523 lbs. of butter, 218,954 of cheese, and 2,297,483 of wool. The grain crops of 1849 were as follows: wheat 2,142,823, rye 415,078, oats 8,201,311, Indian corn 58,672,591, barley 95,343, and buckwheat 16,097 bushels. The potato crop amounted to 2,490,666 (Irish 1,492,487 and sweet 998,179) bushels, the hay crop to 118,747 tons, and the crops of beans and peas to 202,574 bushels. The staples produced were: hemp 17,787 tons, flax 2,100,116 lbs., and tobacco 55,501,196 lbs. The other enumerated products were: cotton, 808,200 lbs.; rice, 5,688 lbs.; hops, 4,309 lbs.; clover seed, 3,230, and other grass seed 21,481 bushels; beeswax and honey, 1,158,019 lbs; flax seed, 75,801 lbs.; maple sugar, 437,405 lbs.; molasses, 30,079 galls.; silk cocoons, 1,281 lbs.; wine, 8,093 galls.,

&c. The value of market garden products was \$303,120, and of orchard products \$106,280. The total value of agricultural productions returned at the census of 1850 was \$52,477,680; in 1840 the value was only \$26,283,968. The actual crops per acre as returned in 1850 were as follows: wheat 8, rye 11, Indian corn 24, and oats 18 bushels; tobacco 575 lbs.; Irish potatoes 180 and sweet potatoes 65 bushels; hay 1½ tons; hemp 650 lbs.—There are 8 other states that are higher in the scale of values in manufactures than Kentucky. In 1850 there were in the state 8,609 establishments engaged in manufactures, mining, and the mechanic arts. These employed 22,445 males and 1,940 females, and a capital of \$12,850,784. The raw material used was valued at \$12,170,225, the annual wages paid amounted to \$4,764,096, and the value of the products was \$24,588,483. Among the establishments are enumerated 8 cotton mills, with a capital of \$289,000; 25 woollen mills, \$249,820; 21 works for pig iron, \$924,700; 20 works for iron castings, \$502,200; 4 works for wrought iron, \$176,000; 81 distilleries and breweries, \$201,835; 12 salt works, \$121,450; 275 tanneries, \$768,455, &c. The principal manufacturing centre is Louisville.—Kentucky has no direct foreign commerce, but its domestic commerce is very extensive. The chief commercial places are Maysville, Covington, Louisville, Henderson, Smithland, Paducah, &c., on the Ohio, Columbus on the Mississippi, and Lexington in the interior. The principal exports are hemp, flax, tobacco, horses, cattle, bagging, and rope. The shipping owned in the state (all steam) in 1850 amounted to 14,820 tons, and in 1859 to 29,627 tons. The number of vessels (steamers) built in 1850 was 84, having an aggregate measurement of 6,461 tons; and in 1859, 20, of 3,816 tons. Internal improvements have been well attended to in Kentucky, and all the large rivers have been rendered navigable for considerable distances above their natural heads of navigation; the works on the Kentucky, Green, Licking, and Big Sandy are the most important. The Portland and Louisville canal has been constructed around the falls on the Ohio, and is an important avenue of commerce. It is proposed to construct another on the opposite side of the river in Indiana. The following table shows the railroads in operation and in progress in Jan. 1860:

Railroads.	Total miles.	Miles open.	Cost.
Breckenridge Coal.....	8.5	8.5	\$812,000
Covington and Lexington.....	80.0	80.0	4,185,971
Lexington and Big Sandy.....	133.0	17.0	694,024
Lexington and Danville.....	35.0	18.0	824,433
Lexington and Frankfort.....	29.0	29.0	642,701
Louisville and Frankfort.....	65.1	65.1	1,567,588
Louisville and Nashville.....	134.5	134.5	—
Memphis Branch.....	31.7	0.0	4,384,980
Lebanon Branch.....	37.6	37.6	—
Maysville and Lexington.....	89.0	18.3	575,000
Mobile and Ohio.....	45.5	20.0	500,000
Paducah and Mobile.....	53.5	53.5	1,170,000
Portland and Louisville.....	5.0	5.0	100,000
Total.....	802.4	537.0	\$15,256,930

From the above 27 miles must be deducted for that portion of the Louisville and Nashville railroad within Tennessee, leaving for Kentucky 510 miles. All of these lines have been constructed by private capital, the state never having as yet afforded any aid to the several companies. Beside the roads above noticed, there are others of equal importance now in progress, as the Henderson and Nashville railroad, one or two from Danville or other point S. of Paris to Knoxville, and the Memphis and Ohio railroad, which is not yet open as far as the Kentucky frontier.—On Jan. 1, 1860, there were in Kentucky 37 banks and branch banks, with an aggregate capital of \$12,316,725; liabilities: circulation \$9,889,426, deposits \$4,042,686, profits on hand \$859,316; resources: notes and bills of exchange, &c., \$21,684,719, specie \$4,864,931, real estate \$508,503; balance total, \$26,508,153.—The present constitution of Kentucky was adopted in 1850. Every free white male citizen 21 years of age, who has resided in the state 2 years, in the county one year, and in the precinct 60 days next preceding an election, is entitled to vote. The general election is fixed by law on the first Monday in August, and voting is *visa voce*. The legislature consists of a senate of 38 members, and a house of representatives of 100. Senators must be 30 years of age, and are chosen for 4 years, one half every second year. Representatives must be 24 years of age, and hold office two years. The sessions of the legislature are biennial, beginning on the first Monday of December in every odd year, and lasting not longer than 60 days unless by vote of ⅔ of both houses. Members are paid \$4 a day, and 15 cents a mile for travel. The governor is chosen for 4 years; the present term ends Sept. 30, 1863. He must be 35 years of age, a citizen of the United States, and have been resident in the state for 6 years. He is ineligible to the office for the 4 years succeeding his term. The lieutenant-governor, auditor, attorney-general, register of land office, and superintendent of public instruction are also elected for 4 years. The lieutenant-governor, with the same qualifications as the governor, is *ex officio* president of the senate. If a vacancy occurs in the office of governor during the last half of the term, the lieutenant-governor, and failing him the speaker of the senate, would act as governor; but if during the first half of the term, then the people hold a new election. The treasurer is elected by the people every 2 years. The secretary of state is appointed by the governor, by and with the advice and consent of the senate, and holds office during the governor's term. The official salaries are: for the governor \$2,500, secretary of state \$1,000, auditor \$2,000, register of land office \$1,250, treasurer \$1,700, and superintendent of public instruction \$1,000. The pay of the lieutenant-governor is \$8 a day during attendance at the legislative session. The judiciary consists of the court of appeals, circuit courts (14 in number), and county courts. Louisville has a separate chancery

court. The court of appeals consists of a chief justice and three judges, the attorney-general, a clerk, sergeant, and reporter. The judges have each \$2,500 a year, and the attorney-general \$500 and fees. The Louisville chancery court consists of a chancellor (salary \$1,800), a clerk, and a marshal (fees). The first judicial district has also a chancellor and criminal judge, whose salary is \$1,800. The judges of circuit are paid \$1,800, and attorneys \$500 and fees. All judges and other officers of courts are elected by the people. The revenue is derived chiefly from direct and specific taxes and the poll tax. The ordinary receipts for the year ending Oct. 10, 1859, amounted to \$1,020,851, and the expenditures to \$882,887. At the end of that financial year there was remaining in the treasury a surplus of \$186,468. The state debt at that time amounted to \$5,479,244, of which \$3,497,412 was held by individuals, \$600,000 by the bank of Kentucky (the bank paying interest), and \$1,381,832 by the board of education. To pay this debt a sinking fund has been established, which is augmented annually by specific taxes, premiums on state bonds, dividends on stock, a *pro rata* tax (5 cents per \$100) on property, &c., and all excess of revenue at the end of each year over \$10,000. The interest on the state debt has been punctually paid. The receipts of the sinking fund for the year 1858-'9, including balance from 1857-'8 (\$41,164), were \$572,877, and the expenditures for the same year \$405,986. The value of taxable property in 1859 was \$498,409,368, being an increase in 10 years of \$176,320,764. The rate of taxation is 20 cents on the \$100, viz., 10 cents for ordinary expenses, 5 cents for the sinking fund, and 5 cents for the school fund. The state holds stock in internal improvement companies of the nominal value of \$4,830,475; in banks and railroads, of \$2,162,820; and the sinking fund, \$758,288; total, \$7,751,578. The principal institutions supported wholly or in part by the state are the lunatic asylum at Lexington, the western lunatic asylum at Hopkinsville, the deaf and dumb asylum at Danville, the school for the blind at Louisville, and the state penitentiary at Frankfort.—The following school statistics are taken from the census of 1850:

Schools.	Num-ber.	Teach-ers.	Pupils.	Annual cost.
Public and primary schools...	2,234	2,306	71,429	\$211,859
Academies and private schools	380	600	12,712	252,617
Universities and colleges	15	100	1,778	181,461
Total.....	2,579	3,006	85,914	\$595,930

Free persons over 20 years of age unable to read and write, 69,706, of whom 66,687 were white and 3,019 free colored persons. The number of children in the state between 6 and 18 years in 1859 was 240,799; the number reported as having attended school in the year was 267,712, and the average attendance was 97,001. The school fund amounted in the same year to \$1,455,382, and the amount distributed for school support was \$304,983. The princi-

pal colleges and professional schools in the state are as follows:

Name.	Location.	Founded.	No. of professors.
Transylvania University.....	Lexington	1798	8
St. Joseph's College.....	Bardstown	1819	20
Centre College.....	Danville.....	1828	5
Augusta College.....	Augusta.....	1825	4
Bacon College.....	Harrodsburg.....	1826	4
Shelby College.....	Shelbyville.....	1827	6
Georgetown College.....	Georgetown.....	1840	7
Western Military Institute.....	Drennon Springs.....	1847	9
St. Aloysius College (R. C.).....	Louisville.....	1849	6
Paducah College.....	Paducah.....	1852	7
Western Baptist Theological Seminary.....	Covington.....	1840	4
Theological School (Presb.).....	Danville.....	1858	4
St. Mary's Theol. Seminary.....	New Lebanon.....	1858	1
Kentucky School of Medicine.....	Louisville.....	.....	10
University of Louisville.....	Louisville.....	.....	18

—The whole number of church buildings in the state in 1850 was 1,845, with accommodation for 671,053 persons, and valued as property at \$2,252,448. The number of newspapers was 62; of these, 9 were issued daily, and circulated annually 2,243,584 copies; 7 tri-weekly, 1,125,280 copies; 38 weekly, 3,053,024 copies; and 8 semi-monthly, 160,950 copies; total annual circulation, 6,582,838 copies; and 12 (circulating at each issue 14,900 copies) were literary and miscellaneous; 2 (800 copies) neutral and independent; 42 (55,936 copies) political; 5 (12,525 copies) religious; and 1 (525 copies) scientific. The periodical press in 1859 comprised 70 publications, of which 2 were semi-monthly, 54 weekly, 2 semi-weekly, 7 tri-weekly, and 5 daily. The number of libraries (other than private) in the state in 1850 was 80, and these contained 79,466 volumes, viz.: 47 public libraries, with 40,426 volumes; 18 Sunday school libraries, 4,617 volumes; 11 college libraries, 33,225 volumes; and 4 church libraries, 1,200 volumes.—The earliest explorers of Kentucky were Boone and Knox. Then came Bullitt, Harrod, and Henderson, and next Kenton, Calloway, and Logan. The exploits of Boone commenced in 1769; he subsequently founded Boonesborough. Harrodsburg was founded in 1774, and Lexington a year or two later. History, however, is not very exact in regard to the precise dates of these foundations, but it is conceded that these towns were, with the exception of the French settlements, the oldest in the West. Kentucky was now made a county of Virginia, and in 1777 the first court was held at Harrodsburg. The fame of the new country soon spread far and wide, and settlers rapidly increased in numbers. Conflicts between the white and red races were frequent, and it is said that from this fact and that of its having been the scene of savage warfare for ages, the name Kentucky, meaning in the aboriginal language "the dark and bloody ground," had its origin. The war of the revolution left the settlers in constant danger of Indian outrage, and the citizens found themselves obliged to undertake their own protection. Richmond, Va., the capital, was too far distant to be relied on for assistance in times of need, and hence the

conventions held at Danville in 1774-'5 recommended a peaceable and constitutional separation from Virginia. The 3d convention sent a petition to Richmond, and in 1786 an act was passed by the legislature complying with the desires of Kentucky; but from several causes the separation was not then completed, chiefly from an inclination of the people to obtain an independent nationality. A 4th convention only served to inflame the people against the central government; and a report having gained currency that Mr. Jay, when minister to Spain, had ceded the navigation of the Mississippi to that country, the utmost ill feeling was aroused in the public mind. A 5th convention met, and on petition Virginia allowed the Kentuckians to send a delegate to congress; but the constitution having in the meanwhile been adopted, the whole subject was turned over to the new government. Taking advantage of this position of affairs, Spain clandestinely proposed through her minister peculiar commercial favors to Kentucky in case of her forming an independent government. These propositions met with some favor; but a 6th and a 7th convention were assembled, and though party politics ran high in the debates, constitutional measures at length prevailed, and an address to congress was ultimately voted. Two more conventions were subsequently held, and the question was determined by Kentucky becoming in 1790 a separate territory, and its admission into the Union on June 1, 1792. The population at this time was about 75,000. Indian wars, however, continued to disturb the frontiers, and complaints of the inefficiency of the federal government were again heard. The whiskey tax also became oppressive, and the American policy toward the French republic was denounced in every cabin. The minister Genet was received in triumph throughout the West, and it was even proposed to raise troops in Kentucky to make a descent on New Orleans; nor did the governor scruple to write to the secretary of state: "I shall feel but little inclination in restraining or preventing my fellow citizens . . . to gratify or remove the fears of a minister of a prince who openly withholds from us an invaluable right, and who secretly instigates against us a savage and cruel enemy." The old idea of independence was again mooted, but the storm passed over. In the 10 or 12 years which succeeded, and which included the period of negotiation for the navigation of the Mississippi, and then for the purchase of Louisiana, Kentucky was again agitated. The treaty of 1795 with Spain gave to the United States the right of deposit at New Orleans and the freedom of the river. Pending the negotiations the governor of Louisiana had approached some leading Kentuckians with a view to a different treaty, but action on these premises was stayed by federal interference, and the faithlessness of the Spaniards was soon made evident. Seven years now passed in comparative quiet and prosperity, when the whole nation became excited

by the intelligence that the Spaniards had violated the treaty of 1795 by a denial of the rights secured by its provisions, and it became known that even Louisiana had been retroceded to France. Its subsequent purchase by the United States put an end to all pending troubles. In the war of 1812 Kentucky took an active part. Upward of 5,000 volunteers were called into active service, and at one time more than 7,000 Kentuckians are said to have been in the field. During this period the chair of state was filled by Isaac Shelby, a hero of the revolution, who at an advanced age manifested the same enterprise and bravery that had gained him an honorable reputation in the battle of King's mountain. At the battle of Frenchtown and the barbarous massacre which followed it, many of the best citizens of Kentucky were destroyed; and the impetuous but ill regulated courage of the state militia at the unfortunate attempt to relieve Fort Mifflin proved fatal to a large body of her troops. Since the treaty of 1815 the history of Kentucky has been undisturbed by any stirring events. Its progress has been rapid, and the development of agriculture and other branches of industry within her borders signally well sustained. The scene of action in the Mexican war was too far distant to affect the fortunes of the state, but many of its best and bravest citizens were engaged in that contest, and by their prowess elevated the reputation of the commonwealth before the world, and gained for the sons of the "dark and bloody ground" a name worthy of their patriotism.

KENTUCKY, a river of the state of the same name, rising in the Cumberland mountains on the S. E. frontier. Its principal feeders are the North, Middle, and South forks, which unite in Owsley co. near the village of Proctor. The stream then takes a N. W. direction to the S. boundary of Fayette co., where it turns toward the S. W. After keeping on this course for 15 or 20 m. it resumes its former direction, and preserves it until it enters the Ohio in Carroll co. Its length from the junction of its head streams to its mouth is 260 m., but the distance in a straight line between these two points is only 108 m. The scenery on the banks is famous for its romantic beauty. For a great part of its course the river flows between perpendicular limestone rocks, through which it appears to have gradually worn its way. The Kentucky has no large tributaries. It is navigable by steamboats to Frankfort, 60 m. from its mouth. By means of a series of dams and locks a depth of at least 6 feet has been secured to the confluence of the forks. There are 17 dams, giving a rise of from 20 to 25 feet each, and the same number of locks, each 178 feet long and 38 feet wide. Anthracite coal, iron ore, and an excellent variety of marble are found along the banks of the river.

KENYON, JOHN, an English poet, born in the island of Jamaica about 1783, died at Cowes, in the isle of Wight, Dec. 8, 1856. His father was a wealthy planter. While a child he was

sent to England and educated at the Charterhouse and other schools, and was graduated at Peterhouse college, Cambridge. After leaving the university he cultivated the acquaintance of Coleridge, Southey, Wordsworth, and other eminent men, and in 1815 he visited Italy and other parts of the continent of Europe. After his return to England he married Miss Caroline Curteis, whom he addresses as "Nea" in the "Verses written in a Churchyard," and whom he survived many years. His first volume of poetry, entitled "A Rhymer's Plea for Tolerance" (1838), was followed in 1838 by "Poems, for the most part Occasional." His last work was entitled "A Day at Tivoli, with other Verses." He used his large fortune with great generosity, and is said to have left legacies to 80 persons, many of whom were his old literary friends, including Barry Cornwall (£6,000) and Mr. and Mrs. Robert Browning (£10,000).

KENYON, LLOYD, lord, a British jurist, born at Gredington, Flintshire, Oct. 5, 1782, died at Bath in 1802. He was the son of a Welsh squire, and after a very imperfect education at a free grammar school was articled to an attorney at Nantwich in Cheshire. Being disappointed in his expectation of becoming a partner in the business of his master, he went to London in 1754, entered Lincoln's Inn, and in 1761 was called to the bar. He attended the courts at Westminster regularly, and went the North Welsh circuit, but at the expiration of 10 years was so little advanced in professional repute that he was desirous of taking orders if he could have obtained the presentation to a small living. At this juncture Dunning, who had been his fellow student, and who was now in the enjoyment of a lucrative practice, employed him as his "fag" or "devil," and many hundred opinions written by Kenyon, and which Dunning never read, were signed by the latter as his own. As it gradually transpired that Dunning's opinions were prepared by Kenyon, the attorneys began to employ the latter, and cases with low fees soon came to him in large numbers. His rise out of his chamber seclusion was probably in consequence of some useful observations which he made as *amicus curiæ* in the presence of Lord Thurlow, then attorney-general, who thereafter promoted his advancement in various ways. To this powerful friend he owed his appointment to the chief justiceship of Chester. The sneers of Kenyon's rivals at this appointment incited his patron to push his fortunes still further. Although possessing no forensic reputation, he was in 1782 made attorney-general, and two years after master of the rolls, in which latter capacity he appeared to considerable advantage. Finally, on the retirement of Lord Mansfield, he was promoted by Pitt to the chief justiceship of the king's bench, with the title of Lord Kenyon, baron of Gredington. This appointment, which he held until his death, was not popular with the bar, and during his whole judicial career he was disliked for his overbearing disposition toward

his professional brethren, and his irritating and even insolent manners. On the other hand, he was in high favor with the public on account of the rigid impartiality of his decisions. He recognized no distinction of persons in his administration of justice, but rather exulted in an opportunity to inflict severe penalties upon the rich or titled. He was deeply learned in the law, and successfully resisted Lord Mansfield's attempts to bring about a fusion of law and equity. Outside of his professional range he was ludicrously ignorant. He accumulated by his professional labors a fortune of £300,000.

KENYON COLLEGE. See GAMBIER.

KEOKUK, a S. E. co. of Iowa, drained by Skunk river; area, 576 sq. m.; pop. in 1859, 12,829. The surface consists partly of prairie, interspersed with groves of timber, and the soil is generally fertile. The productions in 1859 were 550,420 bushels of Indian corn, 24,481 of wheat, 5,255 of oats, 19,487 of potatoes, 9,977 tons of hay, and 15,179 galls. of molasses. Capital, Lancaster.

KEOKUK, a city and semi-capital of Lee co., Iowa, situated in the S. E. corner of the state, at the foot of the lower rapids of the Mississippi, and 2 m. above the mouth of the Des Moines, 205 m. above St. Louis, and 125 m. S. from Iowa City; pop. in 1850, 2,478; in 1857, about 12,000. It is built partly at the foot and partly on the summit of a bluff 150 feet high, which contains excellent limestone, and has broad regular streets with many handsome houses. It is the seat of the state medical college, a female seminary, and a number of academies. A public school edifice here, erected at a cost of \$13,500, is said to be the handsomest building in the state devoted to education. The city has 10 or 12 churches, and a large number of lumber and brick yards, mills, founderies, &c. Its manufacturing establishments in 1857 numbered about 50. It has an active and rapidly increasing commerce, and an incomplete table of its trade in 1856 gave the amount of goods sold as over \$5,000,000. The rapids in the Mississippi, extending 12 m. with a fall of 24 feet, render Keokuk the natural head of navigation at low water, but a canal around them capable of admitting large steamboats, and of affording a vast water power, has been projected. The city has most of the trade of the rich Des Moines valley, and is the terminus of two railroads, the Keokuk, Fort Des Moines, and Minnesota, finished as far as Bentonsport, and the Keokuk, Mount Pleasant, and Muscatine, finished as far as Fort Madison. It has steamboat communication with St. Louis.

KEPLER, JOHANN, a German astronomer, born in Magstatt, near Weil, Wurtemberg, Dec. 21, 1571, died in Ratisbon, Nov. 15, 1630. He was a sickly child, and during his whole life suffered periodically from fevers and other ailments. His father, a man of noble origin and at one time a soldier in the Netherlands under the duke of Alva, having been reduced by the loss of his property to the condition of an inn-

keeper, young Kepler was during a portion of his childhood employed by him in a menial capacity. In 1586 he entered the monastic school of Maulbronn, whence he was transferred to the university of Tübingen, where in 1591 he took his degree of master. Subsequently he devoted himself to the study of astronomy under Möstlin, a disciple of Copernicus, and in 1594 was called to the professorship of mathematics in the university of Gratz in Styria. Here in the same year appeared his first publication, an almanac for 1595, followed in 1596 by his "Cosmographical Mystery," containing a fanciful theory regulating the order of the heavenly bodies, and which Hallam calls "a work mingled up with many strange effusions of a mind far more eccentric than any of the planets with which it was engaged." In 1597 he was married to a young widow named Barbara Muller von Mulech, and soon after, in consequence of domestic dissensions, and of religious troubles which threatened the safety of the Protestant professors in Gratz, of whom he was one, he was constrained to take refuge in Hungary. In 1600, learning that Tycho de Brahe was in Benach in Bohemia, he repaired thither, in the hope of availing himself of the Danish astronomer's observations on the eccentricities of the orbits of planets, and was received by him with great kindness. In the succeeding year he was presented by Tycho to the emperor Rudolph, who named him imperial mathematician, and employed him to assist Tycho in the preparation of a new set of astronomical tables, to be called the Rudolphine tables, intended to supersede those calculated on the Ptolemaic and Copernican systems. The emperor pledged himself to pay all the expenses of the work, and Kepler, to whom was assigned the task of examining the observations on the planet Mars, commenced his labors with enthusiasm. The death of Tycho shortly afterward disconcerted this scheme; and although Kepler succeeded him as principal mathematician, with a liberal compensation, he was thenceforth constantly involved in pecuniary difficulties, in consequence of the inability or neglect of the emperor to pay him the full amount of his salary. For this reason he was obliged to postpone the preparation of the Rudolphine tables, and devote himself to works of a less expensive kind; and such were the necessities of his family that he frequently eked out a subsistence by casting nativities. One of the first results of his altered circumstances was the production of his "Principles of Astrology" in 1602, a work little creditable to his speculative faculties, and in which he confesses his belief in the power of certain harmonious configurations of suitable planets to control human impulses. In his optical treatise, "A Supplement to Vitellio," published in 1604 at Prague, he appears to far better advantage; and although with all his scientific ardor and industry he was unable to discover the law of refraction, a subject that had greatly occupied his attention since the death of Tycho, he

was nevertheless singularly successful in his inquiries respecting vision, and first analyzed the whole scheme of nature in the structure of the eye. In this work he also described the mode of calculating eclipses which obtains at the present day. In his subsequent work on optics, entitled "Dioptrica" (Angsburg, 1611; reprinted in London, 1653), which, according to Sir David Brewster, "laid the foundation of the science," he explained the method of tracing the progress of rays through transparent bodies with convex and concave surfaces, and of determining the foci of lenses, and of the relative positions of the images which they form and the objects from which the rays proceed. Hence he was led to describe the astronomical telescope, having two convex lenses, by which objects are seen inverted. These discoveries, however, are obscured by the greatness of those announced in his "New Astronomy, or Commentaries on the Motions of Mars" (Prague, 1609), which were founded on the astronomical data prepared by Tycho. After many fruitless attempts to represent the orbit of Mars in a uniform circular motion, he discovered, by comparing together 7 oppositions of that planet, that its orbit is elliptical, whence he concluded that the orbit of each planet is an ellipse, with the sun placed in one of its foci. Having next ascertained the dimensions of the orbit of Mars, he found that the radius vector, or line joining the planet and the sun, described equal areas in equal times, and that the same was true of the other planets. These results constitute the first two of the three great laws of planetary motion known as Kepler's laws, the third having been discovered at a later period of his life. The labor and patience with which Kepler conducted these investigations will be best appreciated when it is considered that the calculations were made without the assistance of logarithms, which were a later invention, and that each calculation of an opposition of Mars, filling 10 folio pages, was repeated 10 times, so that 7 oppositions produced a folio volume of 700 pages. In view of such difficulties, the remark of Prof. Playfair is particularly pertinent, "that the discoveries of Kepler were secrets extorted from nature by the most profound and laborious research." Notwithstanding the reputation which these brilliant discoveries gained for him, his worldly circumstances showed no signs of improvement. Not only did his arrears of salary remain unpaid, but the emperor Rudolph refused to allow him to accept the professorship of mathematics at Linz; and to add to his embarrassments, his wife died and his children were attacked by the small pox, which proved fatal to the eldest. Upon the accession of the emperor Matthias in 1612 he was allowed to accept the professorship at Linz, and 3 years later he was married for the second time, chiefly for the sake of his children, his own time being too fully occupied to enable him to look after their welfare. About the same time he presented to the diet at Ratisbon his views on the reformation of

the calendar, the substance of which he published in a short essay. In 1616 appeared his *Ephemerides* 1617-1620, the expense attending the preparation of which he confessed he had been obliged to defray "by composing a vile, prophesying almanac, which is scarcely more respectable than begging, unless from its saving the emperor's credit, who abandons me entirely, and would suffer me to perish from hunger." He nevertheless declined an invitation to fill the mathematical chair in Bologna, preferring poverty and the limited degree of freedom of speech and opinion he enjoyed in Germany, to the prospect of bettering his fortune in Italy. Between 1618 and 1622 appeared the 7 books of his "Epitome of the Copernican Astronomy," which was placed by the inquisition on the list of prohibited books; and in 1619 he published his "Harmonies of the World," dedicated to James I. of England, which is memorable in the history of science as containing the third of his celebrated laws, viz.: that the squares of the periodic times of the planets are proportional to the cubes of their mean distances from the sun. Such was the transport with which this discovery, which for 17 years had baffled all his skill and patience, filled him, that he marked the day and year, May 15, 1618, when it became known to him; and, speaking of the book which promulgated it, he said: "It may well wait a century for a reader, as God has waited 6,000 years for an observer." The accession in 1619 of the emperor Ferdinand II., who promised to pay the arrears of his salary, and to furnish the means of publishing the Rudolphine tables, seemed to open a more favorable era for the prosecution of his scientific labors; but such were the drains upon the imperial treasury caused by the religious wars which then convulsed Germany, that it was not until several years afterward that he was enabled to collect even a part of the sums promised him. In 1620 he was strongly urged by Sir Henry Wotton, the English ambassador at Venice, to take up his residence in England, but declined the offer. Finally in 1627, after more than a quarter of a century's delay and amid difficulties of all kinds, the Rudolphine tables were published in Ulm. They were the first ever calculated on the theory of the ellipticity of the planetary orbits, and are so remarkable a monument of patience and industry, that had Kepler done nothing more than compute them, he would be regarded as one of the benefactors of science. In 1629, for the sake of avoiding the religious dissensions which distracted Linz, at the invitation of Wallenstein, duke of Friedland, he removed with his family to Sagan in Silesia, and soon afterward secured a professorship in the university of Rostock. In the following year he went to Ratisbon, and made a final but fruitless effort to obtain from the imperial assembly his arrears, which now amounted to 8,000 crowns. The vexation which this occasioned, combined with fatigue of mind and body, brought on a fever that proved fatal. His remains were interred in St. Peter's church-

yard, Ratisbon, and in 1808 a monumental temple to his memory was erected on the spot by the prince bishop of Constance.—The ardor and patience with which Kepler pursued science have found few parallels among modern philosophers. Ever prone to indulge in fanciful theories, he never lost sight of the precise object of his search, and ingenuously renounced any hypothesis that he could not reconcile with his advancing knowledge of phenomena. Of his manifold attempts in various branches of science Delambre says: "Those which have failed seem to us only fanciful, while those which have been more fortunate appear sublime." The history of science presents no discoveries more original, or which were deduced with so little assistance from the speculations of preceding philosophers, as his three celebrated laws, from which the discoveries of Newton subsequently sprung, thus completing the great chain of truths which constitute the laws of the planetary system. It is a sufficient evidence of his industry as an author that between 1594 and 1630 he published 83 works, beside leaving 22 volumes of manuscripts, 7 of which contain his epistolary correspondence. The latter was published in 1 vol. fol. in 1718, by Gottlieb Hansch; but the enterprise proving unsuccessful, he was obliged to part with the remaining volumes, which are now in the possession of the imperial library of sciences in St. Petersburg. Recently a complete edition of the works of Kepler has been undertaken by Charles Frisch, to include all his unedited manuscripts, of which the first volume appeared in 1858 (8vo., Frankfurt and Erlangen).

KEPPEL, AUGUSTUS, viscount, an English admiral, born April 2, 1725, died in Suffolk, Oct. 2, 1786. He was the 2d son of William Anne Keppel, 2d earl of Albemarle, and entered the navy in 1740 under the auspices of Lord Anson, with whom he circumnavigated the globe. In 1744 he became a post-captain, and for many years rendered important services as commander of single ships or of squadrons, being almost uniformly successful in the expeditions he undertook. In 1762 he was promoted to be rear admiral of the blue; and in July, 1778, being then admiral of the red, and in command of a large fleet of ships of the line, he had an indecisive conflict with the French squadron under D'Orvilliers off Ushant. The British fleet having hauled off to repair damages, a signal was given by the admiral to renew the battle; but the failure of Sir Hugh Palliser, who commanded the rear, to obey it, enabled the French to escape. Palliser subsequently brought articles of accusation against Keppel, which upon investigation by a court martial were declared unfounded, while the conduct of Keppel was pronounced such as became a prudent and brave officer. The acquittal of the admiral, who was very popular, excited the most enthusiastic demonstrations of joy, and bonfires and illuminations celebrated the event. He was subsequently at different times first lord of the

admiralty, and in April, 1782, was created Viscount Keppel of Elvedon in Suffolk, having for many years previous been a member of the house of commons.

KEPPEL, GEORGE THOMAS, an English soldier and politician, born in 1799, was at the battle of Waterloo, became one of the secretaries of Lord John Russell in 1846, and sat in the house of commons, in the interest of the liberal party, from 1882 to 1885, and again from 1847 to 1852. He has written "Journey across the Balkan," "Journey from India to England," &c.—HENRY, brother of the preceding, born June 14, 1809, entered the navy, commanded one of the vessels of the expedition against China in 1842, and assisted Sir James Brooke in Borneo. He has written "The Expedition to Borneo of H. M. S. Dido," and "A Visit to the Indian Archipelago in H. M. S. Maander," both of which contain extracts from Brooke's diary.

KERATRY, AUGUSTE HILARION DE, a French author and statesman, born in Rennes, Oct. 28, 1769, died in Dec. 1859. He was of a noble family, studied at Quimper, was destined to the law, declared in 1789 in favor of the revolutionary ideas, wrote various romances, was a liberal under the restoration, after the revolution of 1830 was called to the council of state, became a peer in 1837, opposed Ledru-Rollin in 1848, and presided over the legislative assembly in 1849 as the oldest member, and pronounced a violent discourse against republicanism. The *coup d'état* of Dec. 2, 1851, terminated his political career. Among his later writings are: *Du beau dans les arts d'imitation* (1822); *Examen philosophique de Kant* (1828); *Le dernier des Beumanoir* (1824); and *Sophira, ou Paris et Rome sous l'empire*.

KERMAN, or KIRMAN, a province of Persia, between lat. 25° 30' and 31° 20' N., long. 54° 30' and 60° 20' E., bounded N. by Khorassan, E. by Afghanistan and Beloochistan, S. by the Persian gulf, and W. by Laristan and Fars; area, 65,000 sq. m.; pop. about 600,000. It is intersected from E. to W. by a mountain chain called Djebel Abad. To the N. of this chain the country, with the exception of the district of Noormansheer, is a barren wilderness; to the S. of it, generally an alpine region of alternate hill and vale. The valleys and some of the plains are fertile. The white rose is extensively cultivated for its attar, and the mulberry tree for the breeding of silkworms. The chief manufactures are woollen cloths, carpets, goats' and camels' hair shawls, coarse linens, and matchlocks. The most important minerals are iron, copper, and sulphur. The inhabitants of the sea coast are mostly engaged in fishing, but the pearl fishery, which once employed a considerable portion of them, is no longer prosecuted.—The capital, KERMAN (pop. 30,000), was once the most important city in Persia, and the great centre of trade between the Persian gulf and the inland regions; but since the rise of Bushire it has declined.

KERMANSHAH, a town of Persia, capital

of the province of Koordistan, situated on the S. W. declivity of a mountain range, 80 m. W. S. W. from Hamadan, in lat. 34° 30' N., long. 47° 12' E.; pop. about 80,000. It is surrounded by an earthen wall nearly 8 m. in circumference, and is said to be a flourishing town. In the neighborhood are the celebrated rock inscriptions of Behistun.

KERMES INSECT. See COCHINEAL.

KERMES MINERAL, a precipitated sulphuret of antimony, formerly in great repute as a medicine. The secret of its preparation was purchased in 1720 by the French government and made public. It is prepared either in the dry or wet way by treating the tersulphuret of antimony with carbonated soda or potash. The French process is to boil one part of the pulverized antimony with 28 parts of crystallized carbonate of soda in 250 parts of water for half an hour, and after filtering allow the liquor to cool slowly in covered earthen pans. The kermes subsides in 24 hours. It is then collected on a filter, washed with boiling water, cooled while protected from the air, and dried at a temperature of 77°. It is a reddish brown insoluble powder, without taste or slightly styptic. It is used in medicine as an alterative, diaphoretic, and emetic; as an alterative, usually in combination with calomel and guaiacum in the form of Plummer's pill; and conjoined with henbane or hemlock in chronic rheumatism.

KERNER, ANDREAS JUSTINUS, a German poet and physician, born in Ludwigsburg, Württemberg, Sept. 18, 1786. After completing his school education he served an apprenticeship in a cloth factory. In 1804 he went to the university of Tübingen, where he studied medicine and formed an intimacy with the poet Uhland. After some years of preliminary practice he settled in 1818 in the little village of Weinsberg, where he passed 33 years. His residence, at the foot of the romantic old ruins of Weibertreue, became a favorite resort of the Swabian poets. Some of his lyrics, for which Schumann has written melodies, have attained a popularity scarcely inferior to those of Uhland. Complete editions of his poems were published in 1826 and 1848, and a later collection at Stuttgart in 1853 entitled *Der letzte Blüthenstrauss*. He has been a close investigator of the phenomena of animal magnetism and somnambulism, and among the results of his observations is a remarkable book, *Die Seherin von Prevorst* ("The Seeress of Prevorst"), translated into English by Mrs. Catharine Crowe. He has written a number of other books on the same subject. Having been obliged in 1851 to resign his profession from a total loss of sight, he received a pension from the king of Württemberg, and also one from the ex-king Louis of Bavaria.

KERR, a W. co. of Texas, watered by Guadalupe and Medina rivers; area, 1,172 sq. m.; pop. in 1858, 632, of whom 54 were slaves. The surface is diversified, and much of the soil of superior quality. The principal productions are Indian corn, wheat, and cotton. Capital,

Kerrsville. Value of land in 1859, \$69,946. The country was organized in 1856.

KERRY, a maritime county in the S. W. of Ireland, province of Munster, bounded N. by the estuary of the Shannon, E. by Limerick, S. by Cork, and W. by the Atlantic ocean; area, 1,853 sq. m.; pop. in 1851, 238,239, of whom a considerable proportion speak only the Irish tongue. The coast is much indented with bays and inlets, the principal being Brandon, Valentia, Kenmare, Dingle, Tarbert, and Tralee bays. Numerous small islands lie off the coast. The chief rivers are the Feale, Mang, Laune, and Boughy. Many beautiful lakes are hidden among the hills, including the famous lakes of Killarney, the two lakes of Carra, Currane, Derryna and Lanan, and the Devil's Punch Bowl near the summit of Mangerton. The surface in the N. is open and undulating, in the S. W. wild and mountainous. The hilly region contains some of the highest summits in Ireland. Minerals have been but partially explored, yet copper, marble, and roofing slate are worked, and lead and iron are known to exist. Agriculture is in a backward condition. The soil is mostly inferior, except in the central lowlands, where it consists of a rich loam, resting on limestone. The climate is the mildest in Ireland. The fisheries of the Kerry coast are of importance. Chief towns: Tralee, Killarney, Dingle, Listowel, Cahirciveen, and Kenmare. The county returns two members to parliament, beside one for the borough of Tralee.

KERSHAW, a N. district of S. C., drained by Wateree river and Lynche's, Little Lynche's, Rice, and Pinetree creeks; area, 756 sq. m.; pop. in 1850, 14,473, of whom 9,578 were slaves; white pop. in 1859, 5,508. It has a hilly surface. The soil of the uplands is sandy, but susceptible of profitable cultivation, and the river bottoms are remarkably fertile. Cotton is the staple export. A gold mine, once considered the richest in the state, is worked on Little Lynche's creek. The productions in 1850 were 9,015 bales of cotton, 362,165 bushels of Indian corn, 23,510 of oats, 54,880 of sweet potatoes, and 74,675 lbs. of rice. There were 2 saw mills, 1 grist mill, 1 newspaper office, 13 churches, and 340 pupils attending public schools. Capital, Camden.

KERTCH (anc. *Panticapæum*), a city of the Crimea, situated on the straits of Yenikale, commanding the entrance to the sea of Azof, lat. 45° 20' N., long. 36° 28' E., 130 m. E. N. E. from Simferopol; pop. in 1853, 10,000; now about 19,000. The place as it now stands is of recent date. It is handsomely built of stone, with wide and regular streets. It has been a free port since 1827, and is rapidly growing. The inhabitants are mostly engaged in commerce. The exports are building stone, soap, candles, salt in large quantities, with herrings and sturgeon, the produce of the coast fisheries. The government has a foundery and ship yard here. The harbor is good, and is fortified.—Panticapæum was for more than 800 years, down to about A. D. 350,

the capital of the ancient kingdom of Bosphorus Cimmerius, and was itself sometimes called Bosphorus. The Genoese colonized it in the 14th century under the name of Vospro; and it is still called Bospor by the Crimeans. Russia obtained it from the Turks in 1774 by the treaty of Kainarji, and gave it the name of Kertch. In 1855-'6 it was in the hands of the British, by whom the museum, containing valuable remains of antiquity, was destroyed. There are numerous tumuli in the vicinity, and recent excavations have brought to light the supposed burial place of the Scythian kings.

KERVYN DE LETTENHOVE, JOSEPH MARIE BRUNO CONSTANTIN, a Belgian historian, born in St. Michel, Aug. 17, 1817. He is the author of an excellent history of Flanders (*Histoire de Flandres*, Brussels, 1847-'50), and of various other historical works. He has prepared a translation of Milton's select works, and written an essay on Froissart's "Chronicles" (*Étude sur les chroniques de Froissart*), crowned by the French academy in 1856.

KESTREL, a European falcon, of the genus *tinnunculus* (Vieill.), much resembling the American sparrow hawk. This bird (*T. alaudarius*, Bris.) has the form and proportions of the falcons proper, except that the tarsi are longer and the toes less stout. The length is about 14 inches, and the extent of wings 28, the female being a little larger than this; the closed wings are about 2 inches shorter than the tail. In the male, the general color above is light grayish blue, the back and wing coverts pale red with triangular dark spots; the tail with a subterminal broad black bar; the lower parts light yellowish red, with longitudinal dark lines and spots. In the female, the upper parts are light red, with transverse dark bars and spots; the young resemble the female. The kestrel hovers in search of prey at a height of 30 or 40 feet, from which it pounces upon small birds, mice, moles, reptiles, and sometimes worms and beetles, which it finds in the open fields; from its peculiar manner of hovering, it has received the popular name of wind-bover; it occasionally pursues birds in open flight. When not in search of food, the flight is high, with rapid flaps and occasional sailings. Silent when hovering after prey, it is very noisy in the breeding season; it breeds on cliffs near the sea, in trees in the woods, in ruined buildings or high towers in towns, and in the deserted nests of the crow family; the eggs, 3 to 5, are reddish white, with irregular dots and patches of dull brownish red. This is one of the most common birds of prey in Great Britain, in almost all districts except the interior heaths. When taken from the nest, kestrels may be trained to pursue quails, snipes, larks, and birds of similar size. Their numbers are greatly diminished during winter, and they are said to migrate to northern Africa. Though persecuted by gamekeepers, often for the sins of the sparrow hawk, it is of positive benefit to man by destroying great numbers of mice. It is found

throughout Europe. There is a smaller kestrel (*T. cenchris*, Naum.), with longer wings and fewer spots, in eastern and southern Europe. The kestrel swallows small mammals whole, but removes the feathers from its bird prey. There is considerable variation in the plumage.

KESWICK, a market town of Cumberland, England, on the S. bank of the Greta, 24 m. S. S. W. from Carlisle; pop. in 1851, 2,618. It is well built, contains 2 museums, chiefly of minerals, and has manufactures of linsey-woolsey stuffs, cutlery, and black lead pencils. Lying within one mile of the foot of Skiddaw and half a mile from Derwentwater, it is much resorted to by tourists, for whose accommodation there are several hotels. The vale of Keswick is renowned for its picturesque scenery, in respect to which it is surpassed by few spots in England. Greta Hall, late the residence of the poet Southey, is near the town.

KETCH, a name formerly applied to a small armed vessel of 2 masts and from 100 to 250 tons burden, used chiefly to convey distinguished persons from place to place. It was nearly the same as the modern yacht.

KETCH, JACK, a cant term applied in England to the hangman at public executions. Previous to 1642 the hangman appears for a number of years to have borne the name of Gregory. The present name was derived either from a real person, Jack Kitch, who bequeathed it to his successors; or, with more probability, from Richard Jacquett, who held the manor of Tyburn, near London, where criminals were formerly executed.

KEW, a village and parish of Surrey, England, on the S. bank of the Thames, 7 m. W. from London, famous for the royal botanic gardens, comprising 75 acres, and open gratuitously to the public daily, including Sunday. They contain a palm house 862 feet long, 100 feet wide, and 64 feet high, houses for cacti, tanks for the *Victoria regia* water lily, and a most extensive collection of Australian trees and plants. The old palace of Kew was the residence of George III. and his family. The surrounding pleasure grounds cover an extent of 245 acres, tastefully laid out. The number of visitors to Kew gardens was 179,627 in 1850, 327,900 in 1851, 281,010 in 1852, 331,210 in 1853, 339,164 in 1854, 313,816 in 1855, and 344,140 in 1856.

KEWAUNEE, an E. co. of Wis., bordering on Lake Michigan and drained by Kewaunee and Red rivers; area, 360 sq. m.; pop. in 1855, about 1,100. It has a rolling surface and a fertile soil, and is well wooded. It was organized in 1852. Capital, Kewaunee.

KEY, FRANCIS SCOTT, an American lawyer and song writer, born in Frederic co., Md., Aug. 1, 1779, died in Baltimore, Jan. 11, 1843. He was educated at St. John's college, Annapolis, and commenced the practice of the law in Frederic City. Subsequently he removed to Washington, where he was for many years district attorney of the district of Columbia. As a song writer he is chiefly known by his "Star-Span-

gled Banner," a popular national lyric, suggested and partially written while the author was detained in the British fleet during the bombardment of Fort McHenry, near Baltimore, of which he was an anxious and interested witness. A posthumous collection of his miscellaneous poems was published in New York (1856).

KEY WEST (Sp. *Cayo Hueso*, Bone Key), the most westerly of the Pine islands in the chain known as the Florida keys, 60 m. S. W. from Cape Sable, about the same distance E. from the Tortugas, and 100 m. N. N. E. from Havana. It is about 6 m. long and 2 m. broad, and nowhere more than 12 or 15 feet above sea level. It is of coral formation, and has a sandy, sterile soil, but in the few spots which are arable the vegetation is rich. The greater part of it is covered with copsewood or low bushes. There are some vegetable gardens, the productiveness of which is never entirely checked at any season, though greatest in winter. The climate is well adapted to tropical fruits. There is an artificial salt pond on the island, 850 acres in extent. On the S. W. point there is a lighthouse with a fixed light 67 feet above water; there is another of iron on Sandy key, 11 m. S. S. W.; a third on the N. W. passage, showing a fixed white Fresnel light, 40 feet above water; and a light ship anchored on the reef at the W. entrance to Key West harbor. Notwithstanding these precautions, the locality is constantly the scene of disastrous shipwrecks.—KEY WEST CITY, on the preceding island, the capital of Monroe co., Fla., and the southernmost settlement belonging to the United States, is situated in lat 24° 32' N., long. 81° 48' W.; pop. in 1860, about 8,000. It has a fine harbor, accessible through several channels by vessels drawing 22 feet of water. Being the key to the best entrance to the gulf of Mexico, it is strongly fortified. The principal work of defence is Fort Taylor, built on an artificial island within the main entrance to the harbor. The barracks are large and commodious buildings, forming 3 sides of a quadrangle, the opening facing the sea. The streets of the city are wide and clean; the houses, generally of the cottage style, are neat and often embosomed in shrubbery. There are Baptist, Episcopal, Methodist, and Roman Catholic churches, a well arranged marine hospital 100 feet long by 45 feet wide, a custom house, a court house, and other public buildings. Salt is manufactured to the extent of about 80,000 bushels annually; fish and turtle are caught in great abundance; and the neighboring reefs abound in sponges, which are gathered and exported to the value of about \$50,000 yearly. The principal occupation of the inhabitants is wrecking, which, though improperly associated in many minds with piracy, fraud, or violence, is a legitimate business, regulated by peculiar laws, and carried on for the mutual benefit of the owners and wreckers. Many of these latter bear a high character for honesty, generosity, and enterprise. Their vessels are licensed by the judge of the

district court of the United States resident at Key West; they are generally large sloops or schooners, each carrying a crew of 8 or 10 persons, who are remunerated by shares of the profits of the business. The amount of salvage is determined by the admiralty court; one half goes to the owner of the vessel, who fits her out and furnishes materials, provisions, &c.; the other half is divided into shares, of which the captain takes 8, the mate 2, and each of the crew one. In 1858 there were 47 of these licensed wrecking vessels at Key West, averaging 50 tons each, but about half of them are also engaged in fishing. The following table shows the disasters to shipping in the wrecking district of Key West for a series of 5 years:

Years.	No. of vessels.	Salvages.	Expenses.	Value of vessels and cargo.
1854.....	64	\$58,940	\$166,865	\$2,814,000
1855.....	80	100,495	139,800	2,944,077
1856.....	71	163,117	262,644	4,797,609
1857.....	53	101,590	172,984	2,663,450
1858.....	59	141,573	109,778	2,662,000
Total.....	326	\$596,014	\$901,571	\$15,811,127

Key West was made a port of entry in 1822, soon after its first permanent settlement. During the year ending June 30, 1859, its commerce was as follows: imports, \$270,475; exports, \$195,755; vessels entered, 121, tonnage 43,561; vessels cleared, 94, tonnage 14,647; registered and licensed tonnage of the district, 7,641.—A large proportion of the population of Key West consists of natives or children of natives of the Bahama islands. They are generally known as Concha, and are a hardy and adventurous race, remarkable for their skill in diving, which is often called into requisition in recovering the cargoes of sunken vessels. It is said that they frequently secure articles at a depth of 40 or 50 feet, or even more. The climate is considered exceedingly healthy. The thermometer ranges from 50° to 90° F., and the atmosphere is remarkably pure. Lying however in the track of the great hurricanes of the West Indies, the place has suffered repeatedly from violent storms of this description, the most disastrous on record being that of Oct. 11, 1846. A large part of the town was destroyed by fire, May 16, 1859. An area of 20 acres was burned, more than 100 buildings were consumed, and the loss of property was estimated at \$2,750,000.

KEYS, HOUSE OF. See **CLAVES INSULA.**

KEYS OF FLORIDA, a chain of low, sandy islands, reefs, and sand banks on the S. coast of Florida, extending from the neighborhood of Cape Florida, in a S. W. and W. direction, for more than 200 miles, and forming a curve with its convexity to the S. They are exceedingly numerous, and render the navigation of the straits of Florida very dangerous. The most noted of the Florida keys are Key West and the Dry Tortugas.—The term "key" is derived from the Spanish word *cayo*, an islet, and is applied to a great many small islands in the West Indies and on the coast of Florida. (See **FLORIDA.**)

KEYSER, NICAISE DE, a Belgian historical painter, born in Sandvliet, province of Antwerp; in 1813. He is the son of a peasant, and was enabled by the generosity of a lady who recognized his talents to pursue his studies at the academy in Antwerp. His first picture was a "Christ on the Cross," painted in 1834, for a Roman Catholic church in Manchester, England. His works consist chiefly of battle pieces and serious historical subjects, though he has latterly given his attention to pictures of *genre*.

KHALKAS, a tribe of Mongols, inhabiting an extensive region of Outer Mongolia, bordering on Siberia on the N. and Chinese Tartary and Soongaria on the W. Their country extends about 600 m. N. and S. and 1,500 E. and W. It is divided into 4 provinces, Tsetse, Tushitoo, Dsassaktoo, and Sain, governed by khans who acknowledge the spiritual authority of the Guison-Tamba, or Grand Lama, and are nominally feudatory to the Chinese emperor. Beyond an occasional journey of ceremony to Peking, however, these chieftains pay few or no marks of allegiance. There are also some scattered tribes in the Russian dominions, and there is one on the borders of Lake Koko Nor. The residence of the Guison-Tamba is at the lamasery of the Great Kooren, on the N. bank of the river Tools; 30,000 lamas inhabit this place, and near by there is a commercial station of Chinese, where an active trade is carried on with the Russians. The court of Peking maintains several mandarins at the lamasery, ostensibly to look after the interests of the traders, but in reality as spies upon the Guison-Tamba, whose influence is much feared by the emperor. The Khalkas are the richest and most numerous of the Mongol tribes, and the most celebrated in history. The famous Genghis Khan belonged to this tribe.

KHAN, a Tartar word signifying sovereign or chief. It is used by sovereign princes in all the Tartar countries, and is one of the titles of the Turkish sultan. The title khan is given in Persia to officers of various grades, but is generally expressive of high rank, and is especially applied to the chiefs of the nomade tribes of that country.—Khan is also the Turkish word for caravansary or hotel. Of these edifices there are 180 in Constantinople. They are commonly built in the form of a square, with an interior court surrounded by three ranges of galleries, one above another, from which open small unfurnished chambers which travellers are permitted to occupy without charge, except a small present when departing to the servant who has charge of the rooms. These khans have mostly been constructed at the expense of the sultans, though some have been founded by munificent wealthy private individuals.

KHANDEISH. See **CANDEISH.**

KHARKOV, a government of European Russia, province of Ukraine, bounded N. by Kursk, N. E. by Voronej, E. by the land of the Don Cossacks, S. by Ekaterinoslav, and W. by Pultowa; area about 17,500 sq. m.; pop. about

1,500,000. It has an elevated but flat and monotonous surface, partly covered with forests, and a fertile soil, which is generally loamy and here and there sandy. It is traversed by the Donetz, the Oskol, its chief tributary from the N., and various other streams. None of these, however, are navigable for any considerable distance. The chief vegetable productions are the various species of grain, flax, hemp, tobacco, hops, and potatoes. Beside agriculture, the rearing of cattle (which are excellent), horses, and bees, forms the principal occupation of the inhabitants, who are for the most part Little-Russians and Cossacks. The government is divided into 11 districts.—The capital, of the same name, is situated at the confluence of the Kharkovka and Logan, lat. 50° N., long. 36° 26' E.; pop. about 27,000. It is poorly built, mostly of wood, but contains a number of large public buildings, has a considerable trade, and can boast of one of the few universities Russia possesses. The latter, which was founded in 1804 by Czar Alexander I., is endowed with various scientific collections. Kharkov is also the see of an archbishop.

KHARTOOM, a town of Sennaar, the chief seat of the Turkish-Egyptian dominion on the upper Nile, situated on the W. bank of the Bahrel-Azrek or Blue Nile, nearly at its junction with the White Nile; lat. 15° 40' N., long. 32° 38' E.; pop. about 80,000. The houses are mostly constructed of millet stalks, and scattered over a wide area. The principal public edifices are the mosque, military hospital, and bazaar. The chief objects of traffic are slaves, gold, ivory, gums, medicinal plants, ostrich feathers, coffee, and giraffe and leopard skins, all brought from the interior by caravans or boats; and cloths, cottons, saddles, bridles, tea, sugar, soap, shoes, crockery, and hardware from Europe *via* Alexandria and the Nile. The climate of Khartoom is unhealthy. Its inhabitants are a mixed race of Berbers, Arabs, and negroes, with a few Turks, Jews, and Europeans. The town is of recent growth, having sprung up since the conquest of Nubia and Sennaar by the troops of Mehemet Ali.

KHATMANDOO. See **CATMANDOO**.

KHEMNITZER. See **CHEMNITZER**.

KHERASKOFF, **MIHAIL**, a Russian poet, born Oct. 25, 1733, died in Moscow, Sept. 27, 1807. He served in the army, and subsequently held various civil offices, being at one time director and curator of the Moscow university. He was a copious writer in prose and poetry, and the author of several tragedies, comedies, odes, epistles, &c.; but he is now remembered only as the author of the "Rossiad" (Moscow, 1785), an epic in 12 cantos on the conquest of Kasaan by Ivan the Terrible; and of the "Vladimir" (Moscow, 1786), in 18 cantos, on the conversion to Christianity of the czar and saint of that name. Regarded as the Homer of Russia in his time, he is now placed far below the first rank of Russian poets.

KHERSON. See **CHERSON**.

KHIVA, **CHIVA**, **KHARESM**, or **ORGUNJE** (and

Chorasnia), a country of Independent Tartary, lying between lat. 36° and 45° N., long. 52° and 64° E., bounded N. by the Kirgheeze steppe and the sea of Aral, E. by Bokhara and the Kizilkum desert, S. by the Persian province of Khorassan, and W. by the Caspian sea; area, about 150,000 sq. m.; pop. estimated at 2,000,000. It consists mostly of sandy deserts, with a narrow strip of fertile land along the river Jihoon (the ancient Oxus), comprising about 10,786 sq. m. of arable land, under the general name of "the oasis of Khiva," of which only $\frac{1}{4}$ is under cultivation. Its products are grain, fruits, flax, cotton, and madder, with some hemp. Considerable skill is exhibited in agriculture, and Khiva is the only country of central or western Asia which contains a great number of single farming establishments. Cotton is grown extensively. Sheep and goats are raised rather than cattle; the horses are of fine breed; dromedaries are the beasts of burden. Gold is conjectured to exist in the Sheik-daheli mountains, which run parallel with the Jihoon river, from lat. 40° 35' to 42° 30', their geological structure resembling that of the Ural mountains. The population are Soonnite Mohammedans of mixed race. The nomadic tribes are Truchmenes, Karakalpaks, and Kirgheeze. The Usbecks, to whom the khan belongs, are the dominant race. They hold considerable numbers of slaves, the city of Khiva being the great slave mart of Independent Tartary. Shawls and other fabrics for export are woven by the women. Caravans annually convey agricultural produce, silk, cotton, &c., to Orenburg, Astrakhan, and Cabool, to be exchanged for Russian and western goods. The khan is despotic; his title is Taksir-khan; he receives two tomans of tax annually from each family, thereby obtaining a revenue of over \$1,250,000 per annum, in addition to the profits of traffic in slaves and imposts on caravans. His standing army numbers from 15,000 to 30,000 horsemen.—Khiva was probably a part of ancient Bactria. From the 8d to the 10th century it was connected with Persia. It became afterward an independent kingdom under the name of Khowarism or Kharizin, until conquered by Genghis Khan at the beginning of the 13th century. At the end of the 14th it was taken by Timour, and remained part of the kingdom of Samarcand until the beginning of the 16th century. Eventually it came under the rule of the Usbecks, a Turkish tribe, who founded the khanat or kingdom of Khiva. Peter the Great sent an army under Gen. Bekevitch against the Khivans in 1717, which was defeated. Since that time the khans have taken every opportunity to display hostile feelings against Russians. Prominent among the recent khans, for his military skill and wise administration, was Rahini (1802-'26). His successor, Rahman Kuli, made himself particularly obnoxious to the government of the czar by his cruel treatment of Russian prisoners and by his favoring English influence. An army of 20,000 men and 10,000 camels set

out from Orenburg in Nov. 1839, under Gen. Perovski; but most of the troops and animals succumbed to the rigor of the climate before they had far advanced in their journey through the Kirgheez country, and Perovski was compelled to return to Orenburg in Jan. 1840, with the few survivors of the disastrous expedition. Through the interposition of England the Russian prisoners were afterward set free by the khan, who died in 1846. He was succeeded by his brother Babad, and the latter was recently succeeded by Ali Kuli Khan. A treaty concluded by the czar with the khan in 1854 is regarded as very favorable to the influence of Russia. A narrative of the journey of Major Blankennagel to Khiva appeared in the bulletin of the geographical society of St. Petersburg in 1858, with remarks by Grigorief. The writer speaks in glowing terms of the mineral wealth and of the general resources of Khiva, and surmises that it will become an important place for the transit trade of Russia with India.—KHIVA, the capital, is situated on a cultivated plain near the river Jihoon, in lat. $41^{\circ} 40' N.$, long. $59^{\circ} 18' E.$; pop. 18,000. It is surrounded by walls, enclosing an area of 4 sq. m., and consists mostly of adobe huts. The goods sold in its bazaar are English, Russian, and inland cotton cloths, silk shawls, silk handkerchiefs, inferior Russian cloth, pottery, sugar (which is imported from Russia), tea, needles, and cutlery. The cold is often so intense in Khiva as to freeze the Jihoon completely over.

KHOKAN, or KOKAN, a country of Independent Tartary, lying between lat. 40° and $45^{\circ} N.$, long. 67° and $75^{\circ} E.$, bounded N. by the country of the Kirgheez, E. by Chinese Tartary, S. by Bokhara, and W. by the Karakalpak territory; pop. about 3,000,000, mostly Usbeck shepherds and wandering Kirgheez tribes. The surface is covered with the mountains of Ala Tagh, Karataon, Kashgar Divani, and their ramifications, forming the W. buttress of the great tableland of central Asia. The river Sihon flows N. W. through the country, receiving numerous branches in its course to the sea of Aral. Along the rivers the soil is fertile; elsewhere it is thin and sterile. The summer heat is excessive, and the winters are proportionately cold. Pasturage is the leading occupation, as cattle, sheep, horses, and camels constitute the chief wealth, but grain and fruits are raised. Cotton, silk, and wool are staples of the country; the silk is especially valuable. Trade is carried on with various Russian towns, Chinese Tartary, Bokhara, and Budukshan. Large timber is found, as are gold and silver in small quantities, copper, iron, lapis lazuli, jasper, and coal. The people are well formed, fair complexioned, quiet, and hospitable to strangers. The authority of the khan was until a recent period confined to a small district in the upper valley of the Sihon, but it has spread by conquest to its present dimensions.—KHOKAN, the capital, is situated in a fertile and well cultivated valley on the Jaxartes, 280 m. N. E. from Samarcand; pop. 50,000. It is built

of adobe, with mosques, bazaars, and caravan-serais. It supplies the Kirgheez with silks, and Bokhara with cotton fabrics. Caravans between the capitals of Khokan and Bokhara occupy 45 days on the journey.

KHOOZISTAN, or KHUZISTAN (anc. *Susiana*), a province of Persia, bounded N. by Looristan, E. by Irak-Ajemea, S. E. by Fars, S. by the Persian gulf, and W. by Asiatic Turkey, and lying between lat. 30° and $34^{\circ} N.$, long. 46° and $51^{\circ} E.$; area estimated at 25,677 sq. m.; pop. 900,000. Its surface is hilly, the Bakhtiyari mountains rising on its N. E. frontier, and lesser eminences being scattered over the N. part of the province. In the S. it is more level. The Tigris and Euphrates form part of its W. boundary, the latter river after its junction with the former being here known as the Shat-el-Arab. Several of the branches which form its delta empty into the Persian gulf through this province. The principal rivers which traverse the interior are the Kerah and the Karoon. Khoozistan contains extensive grazing lands on which vast herds are pastured, and produces rice, maize, barley, cotton, sugar cane, dates, and indigo. The silkworm is reared, and trade is carried on with Bagdad, Bassorah, and other places. Its principal towns are Shooster, Dezfool, Behak, and Mohammerah. The inhabitants are Tajiks, Sabian Christians, Loors, Erdelans, and Arabs, all of whom, except the Sabians, are Mohammedans. The province contains the ruins of Susa, one of the ancient capitals of Persia.

KHORASSAN, or KHORASAN, a province in the N. E. of Persia, between lat. $31^{\circ} 30'$ and $38^{\circ} 20' N.$, long. $53^{\circ} 10'$ and $61^{\circ} 20' E.$, bounded N. by Khiva, E. by Afghanistan, S. and W. by the Persian provinces of Kerman, Farsistan, and Irak-Ajemea; area, 138,026 geographical sq. m.; pop. 2,000,000. Of the surface, 40,000 sq. m. are covered by the great salt desert, called by the natives Kubeer. The fertile districts are the N. W. and N. E., with numerous oases, mostly of small extent, but containing several populous towns. The mountains of Elbrooz stretch along the N. of the province, and throw off ramifications to the southward. The products of the cultivated districts are grain, cotton, hemp, tobacco, aromatic plants, and drugs, among them asafetida, manna, and gum tragacanth. Manufactures are silk, woollen, and goats' hair stuffs, carpets, muskets, and sword blades. Mushed is the capital of the province, and the other chief towns are Tabas or Tubus and Nishapoor. About 40 m. N. W. from Nishapoor are famous turquoise mines. Two thirds of the inhabitants are Persians, resident in towns, the remainder being nomadic Turcomans and Koorda. The prevalent religion is Mohammedanism of the sect of Ali. The Russian government has sent a scientific expedition to Khorassan, which arrived there at the beginning of 1858, under the direction of Mr. Khanikoff.

KIAKHTA, or KIAKHTA, a Siberian town, near the Chinese frontier, in the Russian government of Irkootsk, lat. $50^{\circ} 20' N.$, long. 121°

40° E., about 100 m. S. from Lake Baikal, on a small stream of its own name, 2,500 feet above the level of the sea; pop. about 5,000. It consists of the fortress, called Troitskoi Sawsk, where the custom house and the government buildings are established, and of the lower town or town proper, where the merchants live, many of them in elegant houses. Kiakhta is the great emporium of trade between Russia and China, the Chinese settlement Maimachin being about 1 m. from the lower town. The trade has been of great importance since 1727, when a free commercial intercourse was established between China and Russia, to be carried on at the common boundary on the river of Kiakhta; but the privileges of the Chinese merchants were curtailed by their being prohibited from building storehouses on the frontier and bringing their wives to reside with them at the mart on the borders. Fairs are held annually, when large caravans of Russians and Chinese meet to barter Russian furs, cattle, lambskins, broadcloths, coarse linen, woollen goods, iron ware, butter, &c., for Chinese silks and other goods, and especially tea, a great amount of which is forwarded for sale to the fair of Nijni-Novgorod. The total value of the trade between Russia and China passing through Kiakhta is estimated at over \$8,000,000. There are several places of worship and a Bible society in the town. Erman, in his "Travels in Siberia," says of Kiakhta: "The entrance of this well known frontier town is just like that of a German village. A Cossack keeps guard, with his drawn sword, to prevent any article of merchandise passing in or out unless by a written permit from the custom house. Chinese traders meet us at every step. They were all hurrying over the boundary line, for every Chinese is obliged to be in Maimachin before sunset. We followed the crowd that was pressing forward toward a narrow door in the front of a long wooden building. This admitted us into the inner quadrangle of a Russian warehouse, where merchandise is stored and disposed of by wholesale, but not exposed to view. A corresponding door at the opposite side of this court opens just upon a wooden barricade, which constitutes the barrier of China. In this there is a wide portal, ornamented with pillars and displaying the Russian eagle above it, along with the cipher of Nicholas I., by whom it was erected. The change upon passing through this gate seemed like a dream, or the effect of magic; a contrast so startling could hardly be experienced at any other spot upon the earth. The unvaried sober hues of the Russian side were succeeded all at once by an exhibition of gaudy finery, more fantastic and extravagant than was ever seen at any Christmas wake or parish village festival in Germany. A peculiar and distinct dialect of the Russian language may be said to have grown up at Kiakhta from the intercourse with the Chinese."

KIDD, WILLIAM, an American pirate, born about the middle of the 17th century, executed in London, May 24, 1701. He appears to have

followed the sea from his youth, and about 1695 was known as one of the boldest and most successful shipmasters that sailed from New York. At this time the depredations of pirates upon British commerce had become so extensive that a company was organized in England, in which William III. and several noblemen were shareholders, to fit out an armed vessel for the purpose of suppressing the practice, as well as of deriving a profit from recaptures. At the suggestion of Col. Richard Livingston of New York, Kidd, who had obtained some experience as captain of a privateer against the French, received a commission signed by the king, and directed to "the trusty and well beloved Captain Kidd, commander of the ship *Adventure Galley*," a vessel of 80 guns. Sailing from Plymouth, England, in April, 1698, he cruised off the American coast for some months, occasionally entering New York, where by successive recruitments he raised his force to over 150 men, and finally sailed for the East Indies and the E. coast of Africa. Upon his way thither he resolved to turn pirate, and finding his crew not averse to the project, he forthwith commenced a career of plunder and outrage among the shipping which frequented the coasts of Malabar and Madagascar, returning in 1698 with a large store of booty to New York. He took the precaution to bury a portion of his treasure on Gardiner's island at the E. end of Long island, and subsequently repaired to Boston, where he boldly made his appearance in the streets, not doubting that under his commission he could clear himself from any charge of piracy. Such, however, had been the scandal which the report of Kidd's depredations had caused in England, that the earl of Bellamont, governor of Massachusetts and New York, and one of the shareholders in the enterprise, caused him promptly to be arrested and conveyed to England for trial. The charge of piracy was difficult to prove; but having been arraigned for killing one of his crew, named Moore, with a bucket, in an altercation, he was convicted after a grossly unfair trial, and hanged at Execution dock. His name and deeds have been interwoven into popular romance, and form the subject of the well known ballad commencing: "My name is Captain Kidd, as I sailed, as I sailed," many of the incidents of which, however, are apocryphal. The treasures he had left, consisting of 788 ounces of gold, 847 ounces of silver, and several bags of silver ornaments and precious stones, were secured by Bellamont. But according to popular belief this inconsiderable amount constituted but a tithe of all he had collected, and down to the present time the shores of Long Island sound and various parts of the banks of the Hudson river continue occasionally to be explored in the hope of discovering the abandoned wealth of the great pirate.

KIDDER, DANIEL PARISH, D.D., an American clergyman of the Methodist Episcopal church, born in Genesee co., N. Y., in 1815. In 1833 he was appointed teacher of ancient

languages in the Genesee Wesleyan seminary, and in 1836 was graduated at the Wesleyan university, Middletown, Conn. He entered the ministry in 1836 as a pastor in Rochester, N. Y. In 1837 he sailed from Boston as a missionary to Brazil, and resided in Rio de Janeiro till May, 1840. In 1839 he traversed the whole E. coast of the Brazilian empire, from San Paulo on the border of the southern temperate zone to Para on the equator. He introduced and circulated extensively the Scriptures in Portuguese in all the principal cities of the empire, and preached the first Protestant sermon on the waters of the Amazon. It was delivered on the deck of a Brazilian steamship in the harbor of Para, and was followed by a series of similar ministrations in the city itself. He returned to the United States in 1840, and filled several important stations in the New Jersey conference. In 1844 he fixed his residence in New York, having been appointed official editor of the Sunday school publications and tracts, and corresponding secretary of the Sunday school union of the Methodist Episcopal church. He occupied this position 12 years, and, beside editing the "Sunday School Advocate" and travelling extensively in behalf of the Sunday school union, compiled and edited over 800 volumes of Sunday school books. In 1856 he was appointed professor of practical theology in the Garrett biblical institute, Evanston, Ill. He has translated from the Portuguese the work of Feijo, regent of the empire of Brazil, entitled "Demonstration of the Necessity of Abolishing a constrained Clerical Celibacy, exhibiting the Evils of that Institution and the Remedy" (Philadelphia, 1844). He is the author of "Sketches of a Residence and Travels in Brazil" (2 vols. 8vo., Philadelphia, 1845), and, conjointly with the Rev. J. C. Fletcher, of a descriptive and historical work entitled "Brazil and the Brazilians" (8vo., Philadelphia, 1857).

KIDDERMINSTER, a municipal and parliamentary borough of Worcestershire, England, situated on the Stour, 18 m. N. from Worcester; pop. in 1851, 18,462. The street are irregularly built, and the houses are generally small. The most important manufacture is of carpets, for which Kidderminster has long been famous. The Stafford and Worcester canal, and the Oxford, Worcester, and Wolverhampton railway, pass through the town. The manor of Kidderminster was once the property of the poet Waller. Here for many years Richard Baxter officiated as pastor. It returns one member to parliament.

KIDNAPPING, the stealing and carrying away or secreting of any person. It is regarded by the law as an aggravated species of false imprisonment, and includes the legal elements of that offence. The requisites in an indictment for kidnapping seem to be an averment of an assault, and of the carrying away or transporting the party injured from his own country into another unlawfully and against his will. It has been held, however, in the United States (State *vs.* Rollins, 8 N. H. 550), that transpor-

tation to a foreign country is not necessary to constitute the offence. In the language of the court: "If the party is seized and an actual transportation takes place with a view of carrying him into another country, the offence would seem to be complete." At the common law kidnapping is a misdemeanor, and punishable by fine and imprisonment. The same punishment is adopted by the state statutes in this country.

KIDNEY, a special organ in vertebrated animals, whose office is to separate from the blood certain effete substances, to be thrown out of the system in the urine; it has no direct connection with any of the nutritive operations concerned in digestion. Taking these organs in man as typical, the kidneys are situated in the lumbar region, one on each side of the spine, on a level with the last two dorsal and the first two lumbar vertebrae; they are of a brownish red color, bean-shaped, flattened from before backward, and grooved on the interior border for the great vessels; the anterior surface is in relation on the right with the duodenum and the ascending colon, and on the left with the descending colon, the posterior surface is imbedded in fat, resting against the muscles; the upper border is embraced by the supra-renal capsules, which have recently obtained a pathological notoriety in connection with the disease called "bronzed skin." The kidneys are well supplied with blood, in accordance with the importance of their function; the renal arteries come directly from the aorta, and the large veins terminate in the vena cava; the nerves come from the renal plexus. They are covered by a thin, firm, transparent cellular envelope; internally they are composed of two substances, an exterior or cortical and an interior or medullary. From the researches of Bowman, Gerlach, Kölliker, and others, it is ascertained that the cortical substance, the seat of the greater part of the secretory process, is made up of a great number of uriniferous tubes, much convoluted and inosculating with each other, and lined with epithelial cells of a spheroidal and projecting form; scattered through the plexus formed by these tubes and the blood vessels are dark points which have been called *corpora Malpighiana* from their discoverer; these last are convoluted masses of minute blood vessels included in flask-like dilatations of the uriniferous tubes, forming a close relation between the circulating and the secreting systems. The medullary substance is composed principally of tubes passing nearly straight inward to the central receptacle of the secretion. Both these substances are imbedded in interlacing fibres, most abundant in the medullary. In mammals the kidneys are supplied with blood directly from the arterial system, but the renal artery divides very soon after entering the organs into minute twigs which pierce the capsule of the Malpighian tufts; from the convolutions of these tufts arise the efferent vessels which surround the uriniferous tubes, and from which the renal veins are formed; thus the urinary secretion is produced

from blood which has passed through the Malpighian capillaries, the efferent trunks from which have been compared to a portal system within the kidney. The uriniferous tubes end in from 12 to 18 conical bundles, pointing toward the interior, and there embraced by 6 or 12 membranous ducts received into the central reservoir or pelvis of the kidney, from which arises the ureter, the membranous tube which conducts the renal secretion to the bladder. Without entering upon physiological questions which will be more properly treated under URINE, it will be sufficient to state that the kidneys serve to regulate the quantity of water in the system, a large amount of which may be got rid of through their agency. As the skin and lungs, the other channels through which superfluous water is removed from the blood, are liable to be greatly affected by external circumstances, the kidneys perform a very important office in relation to that fluid. Hence the quantity of the renal secretion will depend on the amount of fluid passed off by the skin, being greatest when the cutaneous secretion is least, and *vice versa*; the amount of solid ingredients being dependent on the amount of waste and the excess of nitrogen in the system. The cells lining the tubes probably eliminate the solid matter, while the Malpighian tufts effect the separation of the superfluous fluid through the thin walls of their capillaries; the former illustrates a vital act of secretion, and the latter a mere physical transudation. The kidneys serve to free the blood from highly nitrogenized compounds formed from the decomposition of the albuminous and gelatinous tissues and from some portions of the food; they also remove certain excrementitious compounds, of which carbon is a principal ingredient, abnormally increased when the liver and the lungs do not act freely; by them the superfluous water and various saline matters in excess, and foreign substances introduced into the blood as medicines or otherwise, which would be injurious if retained, are carried off. The kidneys are subject to many painful and dangerous diseases, which can only be alluded to here; among these are vascular congestion, inflammation, fatty degeneration, diseased states produced by retention of urine, by calculi, external violence, and extension from other organs. Bright's disease is one of their most common and fatal affections, the so called granular degeneration, consisting in the distention of the tubules, the surrounding tissue, and even the Malpighian capsules, with exudation matter. Invertebrates have special organs for the secretion of urine, opening into the intestines or into the branchial cavity. In fishes the kidneys are very long, extending the whole length of the spine, even to the head, formed of a mass of simple globules, the ureter opening into the cloaca or a urinary bladder; in reptiles they are generally situated within the pelvis, but in serpents they come further forward and are made up of numerous lobes of a compressed reniform shape. In birds they are elongated,

commencing immediately below the lungs, extending on each side of the spine to the rectum, and variously divided into lobes. In mammals they resemble those of man, except that in cetaceans and some other lower families they are more or less subdivided into lobes, as in the human fœtus; in mammals only is there the marked distinction into cortical and tubular substance. The embryological growth of these organs from the Wolffian bodies to the perfect kidneys is a subject of great interest; the former remain in fishes as the permanent kidneys, and are first seen in the course of development in all vertebrates.—For full details on the anatomy and diseased conditions of the kidneys, see the article "Ren" in the "Cyclopædia of Anatomy and Physiology."

KIEL, a seaport of Denmark, capital of the duchy of Holstein, situated on the Kielerfjord, a fine harbor of the Baltic, in lat. 54° 10' N., long. 10° 8' E.; pop. 16,800. It is walled, well built, contains the Glucksborg palace, 4 churches, and a university founded in 1685, with an observatory, a library of 80,000 volumes, a botanic garden, and 800 students. Kiel is important as the only great naval harbor on the S. of the Baltic, and as the terminus of the Holstein canal, which connects the Baltic with the German ocean. It is connected by steamers with all the principal ports of the Baltic. Since the construction of the railroad to Hamburg, Kiel has flourished at the expense of Lübeck. A treaty of peace was concluded at Kiel in 1814 between England, Sweden, and Denmark. The city was blockaded in 1849, and occupied by Austrian troops in 1851-'2.

KIEPERT, HEINRICH, a German geographer, born in Berlin in 1818. He travelled from 1841 to 1848 in Asia Minor. Returning to Europe, he was appointed director of the geographical institute of Weimar, which he left in 1852 to return to his native city, where he has since lived. He has during the past 20 years published a great number of maps remarkable for accuracy and elegance. The greater part of them are descriptive of Greece, Turkey, ancient Italy, and Asia Minor. He also prepared the maps for Robinson's "Biblical Researches in Palestine," and for the 2d part of Ritter's *Erkunde*, and in 1855 one relating to the new explorations in the arctic regions.

KIEV, KIEFF, or KIOW, a government of European Russia, bounded N. by Minsk, E. by Tchernigov and Pultowa, S. by Cherson, S. W. by Podolia, and W. by Volhynia, between lat. 48° and 52° N. and long. 28° and 38° E.; area, about 19,000 sq. m.; pop. in 1856, 1,804,970. The surface of Kiev, which is the most fertile part of the Ukraine or Little Russia, is a plain, here and there undulating, and near the river courses intersected by low ranges. It is watered by the Dnieper, which forms its boundary on the side of Tchernigov and Pultowa, and its western affluents, the Pripetz, Roa, and others, the streams which take their course to the southern Bug or Boh being unimportant. There

is abundance of grain of all kinds, of hemp, flax, honey, wax, and tobacco, excellent timber, and cattle of very good breed, the latter forming a principal article of export. The climate is generally very mild and dry; excessive heat prevails in summer. Agriculture and cattle breeding are the chief occupations of the inhabitants, who consist mainly of Little-Russians. The manufactures are unimportant. Trade is in part carried on by Jews, who are numerous in the adjoining western governments.—Kiev, the capital, is situated on the right bank of the Dnieper; pop. about 50,000, nearly all belonging to the Greek church. It consists of 4 parts, the old town, the Petcherskoi or new fort, both on steep hills, the Podole or low town, between the hills and the river, and the Vladimir town, which was added to the former by the empress Catharine II. The old town, which in the times preceding the conversion of the Russians to Christianity, under Vladimir the Great, was the principal seat of Sarmatian and Russian heathen worship, now contains, beside several other churches, the cathedral of St. Sophia, a magnificent structure of the 11th century, and the palace of the Greek metropolitan. The fort contains the great monastery from which it received its name, and which, together with the bastions and walls of the place, and the glittering gilt and colored cupolas of the churches on the neighboring eminences, makes a strong impression upon the traveller who approaches the city from the other side of the Dnieper. This division embraces the barracks of the garrison, the arsenals and magazines, the houses of the officers, the palace of the governor, numerous churches, and the renowned catacombs of St. Anthony, consisting of excavations in a precipitous cliff on the banks of the river, which attract numberless pilgrims from all parts of Russia through veneration for the saints whose bodies are there preserved. Adjoining are the catacombs of St. Theodosios, which contain a smaller number of saints. The Podole, which is the commercial part of the city, is regularly laid out, and embellished with gardens. Kiev has a large university, founded in 1834, to which are attached a library and cabinets of medals, zoology, mineralogy, and botany. There are also various other institutions of learning, of which the Greek theological academy in the Petcherskoi monastery is the best endowed and most frequented. The manufactures and trade of the city are not important.—The earliest history of Kiev is traced by some to the time of the Greek colonies near the N. coast of the Black sea; others place its foundation in the 5th century A. D. In the last quarter of the 9th century it became the residence of the princes of Novgorod. As the capital of Christianized Russia, it was adorned in the 11th century with a great number of churches. After the middle of the 12th, however, it was deprived of its rank, and subsequently suffered by the devastations of the Tartars, the Lithuanian and Polish wars, the plague, and fires. After having been for about

8 centuries in the hands of the Poles, it was re-annexed to Russia by the peace of 1661.

KILBOURNE, JAMES, an American pioneer, born in New Britain, Conn., Oct. 19, 1770, died in Worthington, O., April 9, 1850. He was successively employed as an apprentice, clerk, merchant, and manufacturer, and at the same time acquired a considerable knowledge of the classics and mathematics. Having early secured a competence, he presented himself as a candidate for orders in the Protestant Episcopal church, and was ordained about 1800 by Bishop Jarvis of Connecticut. He declined several advantageous calls to vacant parishes, and, for the purpose of promoting western emigration, in 1801-'2 organized the Scioto company, under whose auspices a colony of about 100 persons, under the lead of Mr. Kilbourne, was in 1808 established in what is now the township of Worthington in Ohio. Having organized here the Episcopal parish of St. John's, as well as other parishes in the neighborhood, and procured the establishment of a western diocese by the general convention of the Protestant Episcopal church, he retired from the ministry in 1804, and was soon after appointed a civil magistrate, an officer of militia on the N. W. frontier, and surveyor of a large portion of the public lands. In 1813 he was one of the commissioners to settle the boundary between the public lands and the great Virginia reservation, and also commissioned as a colonel in the frontier regiment; and in the succeeding year he entered congress, of which he remained a member until 1817. He was the first to propose donations of lands to actual settlers in the N. W. territory, and as chairman of a select committee he drew up and presented a bill for that purpose. He afterward served for some years in the Ohio legislature. He was also a trustee of Ohio college, at Athens; a commissioner for locating Miami university; and for 35 years president of the board of trustees of Worthington college.

KILDARE, an inland county of Ireland, province of Leinster, bounded N. by Meath, E. by Dublin and Wicklow, S. by Carlow, and W. by Queen's and King's counties; area, 654 sq. m.; pop. in 1851, 95,724. The surface is flat or undulating, and, with the exception of the bogs, has a fertile clayey soil. Farms are less subdivided in this county than in most others. Kildare has a considerable export of grain and flour by means of the river Barrow and the royal and grand canals and their branches. The rivers Liffey and Boyne also traverse a portion of the county, and two railways intersect it. Cotton and woollen fabrics and paper are manufactured to a limited extent. Near the centre of the county is a plain of 4,858 acres, the property of the government, and called the Curragh of Kildare, used for military camps of exercise, and having on it one of the best race courses in the kingdom. The county returns two members to parliament. Principal towns: Naas, the capital, Athy, and Kildare.

KILDEER, an American plover, so called from its notes, which resemble the sounds "kil-dee, kildee, dee, dee, dee;" it is the *charadrius vociferus* (Linn.) or the genus *agialitis* (Boie). The kildeer is about 10 inches long, with an extent of wings of 20, the bill 1 inch, and the weight 6 ounces. The head is small, the neck short, body rather slender, wings reaching to the end of the long tail, feet long and slender, hind tibia bare considerably above the joint, and toe wanting. The bill is black, the edges of the lids bright red, the iris dark brown, and the feet grayish blue; the head above and upper parts of the body light brown with a greenish tinge; rump and upper tail coverts rufous; lower parts white; ring on neck and wide band on breast black; quills brownish black, with about half their inner webs white; white spots on the shorter primaries, and the secondaries edged with the same; the 4 middle tail feathers white tipped, with a wide subterminal black band, and the lateral ones widely tipped with white; the whole upper plumage is sometimes edged with rufous. This bird is common throughout North America, most abundant inland, going to the south in winter, and to the islands of the Atlantic and Pacific. It is very wary, the small flocks when feeding posting a sentinel to warn them of danger; when alarmed it is very noisy, uttering rapidly the notes which have given it its name. It prefers newly ploughed fields, the banks of clear rivers, and elevated worn-out grounds, where it feeds on worms, grasshoppers, beetles, small crustaceans, and snails; toward winter it approaches the sea shore, and at the south is fond of the sugar, cotton, and rice fields, and of marshes, mud flats, and oyster beds. The flight is strong and rapid, whether at high or low elevations, and the speed in running is such as to have become proverbial; the large eyes indicate its habit of feeding by night as well as by day. It breeds in the southern states about the beginning of April, and a month later in the middle states; the nest is either a hollow in the earth or is made of grass on the ground; the eggs, usually 4, are $1\frac{1}{4}$ by $1\frac{1}{4}$ inches, cream-colored with irregular purplish brown and black blotches; the parents adopt various devices to divert attention from their nest. The flesh, unless of the young in early autumn, is indifferent, though it is eaten at all seasons of the year.

KILIAN, the name of a family of engravers who flourished in Augsburg in the 16th, 17th, and 18th centuries, of whom the following were the most eminent: I. **BARTOLOMÆUS**, born in Augsburg in 1630, died there in 1698. He studied with Matthæus Merrian, and practised his art for a while in Paris, but passed the greater part of his life in Augsburg. He was equally successful in engravings and etchings, and executed a great number of works, consisting principally of portraits. II. **PHILIPP ANDREAS**, a kinsman of the preceding, born in Augsburg in 1714, died in 1759. He became one of the most distinguished artists of his time, and in 1751 commenced the execution of a series

of plates of the chief pictures in the Dresden gallery. Being interrupted in this occupation by the breaking out of the 7 years' war, he executed with the assistance of other artists an extensive series of illustrations of the Bible. He was particularly happy in engraving portraits, two of the best of which are those of the emperor Francis I. and Maria Theresa.

KILIAN, HERMANN FRIEDRICH, a German physician, born in Leipsic, Feb. 5, 1800. In his childhood he accompanied his father (who from a clergyman became a physician) to St. Petersburg, and commenced the study of medicine at Wilna in 1816. At the age of 20 he received the degree of M.D., and was made assistant professor at the academy of medicine in St. Petersburg. In 1825 he returned to Germany, and in 1831 became professor of obstetrics at the university of Bonn, a position which he has ever since occupied. He is one of the most learned authorities of the day on the subject of obstetrics, and is the author of treatises on the circulation of the blood in infants in the womb, on the surgery of obstetrics, and on the science and art of obstetrics, of an obstetrical atlas, and of the *Armentarium Lucina Novum* (Bonn, 1856), containing a large number of engravings of obstetrical instruments, both ancient and modern. He has also published treatises on the anatomy of the brain and other subjects.

KILIMANDJARO, one of the highest mountains in Africa, situated in the Jagga country, on the border of Zanguebar, about 250 m. from the coast, in lat. $3^{\circ} 40' S.$, long. $36^{\circ} E.$ It is said to be crowned with perpetual snow, with its summit 20,000 feet above the level of the sea. This mountain was discovered in 1850 by the German missionary Dr. Krapf.

KILKENNY, an inland county of Ireland, province of Leinster, bounded N. by Queen's county, E. by Carlow and Wexford, S. and S. W. by Waterford, and W. by Tipperary; area, 796 sq. m.; pop. in 1851, 158,746. The surface is generally level, but diversified with some hills, which rise to the altitude of 1,000 feet. The county is intersected by the river Nore, and bounded respectively E. and S. by the rivers Barrow and Suir. The soil is mostly a light fertile loam. Anthracite coal of inferior quality abounds. Fine black marble is quarried near the town of Kilkenny. Various stone piles of the pagan era, cromlechs and cairns, are found in this county, chiefly on the summits of hills. It is divided into 10 baronies, and returns two members to parliament.—**KILKENNY**, a city and parliamentary borough, capital of the preceding county, and a county in itself, is situated on the river Nore, lat. $52^{\circ} 37' N.$, long. $7^{\circ} 13' W.$, 81 m. by railway S. W. from Dublin, and 27 m. N. by W. from Waterford; pop. in 1851, 20,288. It is well built, paved, lighted, and supplied with water. The principal buildings are the cathedral of St. Canice or Kenny, erected in the 14th century, a Roman Catholic cathedral, several churches, the ruins of a Franciscan monastery, prisons, workhouse, barracks, and a

castle built by Strongbow. Its educational institutions are the Kilkenny college or grammar school, where Swift, Congreve, Farquhar, Bishop Berkeley, and other distinguished persons studied; St. Kyran's Roman Catholic seminary for the education of young men destined for the priesthood; and various other seminaries. Kilkenny sends one member to parliament.

KILLARNEY, a market town and parish of Ireland, co. Kerry, 44 m. N. N. W. from Cork; pop. of the town, which lies partly in the parish of Aghadoe, about 7,000. It is a dirty and unattractive place, containing several hotels, a nunnery, a dispensary, a fever hospital, an almshouse, and several churches and chapels, including a handsome Roman Catholic cathedral. It is situated about $1\frac{1}{2}$ m. E. from a chain of 8 lakes famous for their picturesque beauty, and much resorted to by tourists. The upper or southernmost lake is $2\frac{1}{2}$ m. long and $\frac{1}{2}$ m. wide. It contains 12 islets, and is connected by a circuitous stream with the middle, Muckross, or Torc lake, $1\frac{1}{2}$ m. long. The latter communicates by 8 passages with the lower lake, called also Lough Leane, which is 5 m. long and 8 m. broad, and contains 80 islands. On the peninsula between the middle and lower lakes are the picturesque ruins of Muckross abbey. On the W., S., and S. E. shores rise high mountains, separated by wild ravines, through which flow several beautiful streams. O'Sullivan's cascade, near the W. shore of Lough Leane, consists of 8 distinct falls between high overhanging rocks.

KILLIGREW, SIR WILLIAM, an English poet, born in Hanworth, Middlesex, in 1605, died in London in 1698. He was educated at St. John's college, Cambridge, and afterward travelled on the continent. On his return to England he was appointed governor of Pendennis castle in Cornwall, and afterward gentleman usher to Charles I. When the civil war broke out he was made a captain in the royal horse guards. At the restoration he became gentleman usher to Charles II., and subsequently first vice-chamberlain, which office he held for 22 years. He was buried in Westminster abbey. He wrote "The Siege of Urbin," "Selindra," "Ormaedes, or Love and Friendship," and "Pandora," dramas published at Oxford in 1666, and much praised by Waller. In his old age he wrote two serious works, "Artless Midnight Thoughts," &c., and "Midnight and Daily Thoughts."—THOMAS, an English dramatist, brother of the preceding, born in Hanworth in 1611, died in London in 1682. After visiting France, Spain, and Italy, he became page of honor to Charles I., and at the restoration groom of the bedchamber to Charles II., whose exile and privations he had shared, and over whom, by his coarse licentious wit, he had acquired great influence. He was honored with a grave in Westminster abbey. He was the author of 11 plays, a complete edition of which appeared in 1664.—HENRY, an English divine, brother of the preceding, born in Hanworth in 1612; the period of his death is uncertain. He was edu-

cated at Christchurch, Oxford. When only 17 years old he wrote a tragedy called "The Conspiracy" (reprinted in 1658 under the title of "Pallantus and Eudora"), which won the admiration of Ben Jonson. On being ordained he was appointed chaplain in the army. After the restoration he became almoner and chaplain to the duke of York.—ANNE, daughter of the preceding, born in London in 1660, died in June, 1685, was noted for her virtues, beauty, and accomplishments, but is still better known by the ode which Dryden wrote to her memory. She was "excellent in the sister arts of poesy and painting," and painted a portrait of the duke of York (afterward James II.) and his duchess, to whom she was a maid of honor. A volume of her poems was published in 1686.

KILMARNOCK, a parliamentary and municipal borough of Ayrshire, Scotland, 12 m. N. E. from Ayr, $88\frac{1}{2}$ m. S. W. from Glasgow, and $9\frac{1}{4}$ from the seaport of Troon, with all of which it is connected by railway; pop. in 1851, 21,447. The town possesses some handsome public buildings, 18 churches, an academy, several public libraries, a picture gallery, a mechanics' institute, 2 newspapers, &c. It is famed for the manufacture of woollen shawls, carpets, worsted goods, gauzes, muslins, hosiery, and shoes. It returns one member to parliament in conjunction with the boroughs of Port Glasgow, Dumbarton, Renfrew, and Rutherglen.

KILN (Lat. *culina*; Sax. *cyln*, a furnace), an oven employed in manufacturing operations, variously constructed according to the special purpose for which it is designed. The baking of brick is conducted in kilns (see BRICK); and in the treatment of ores preparatory to smelting they are often roasted in kilns, as well as in the open heap. Kilns used in charring wood are described in the article CHARCOAL; and ovens upon the same principle are employed in cooking bituminous coal. The ovens used in baking earthenware are also kilns. (See POTTERY.) In the manufacture of lime are employed the most complete forms of kilns, for a description of which see the article upon that subject.

KILOGRAMME. See GRAMME.

KIMBALL, a W. co. of Texas, drained by the head waters of Llano river; area about 1,500 sq. m. It has a rugged surface, with an alternation of narrow valleys and rocky highlands, and abounds in limestone and other building materials. The soil is of good quality, but better adapted to grazing than tillage. The county was organized by the legislature of 1857-'8.

KIMBALL, RICHARD BURLEIGH, an American author, born in New Lebanon, N. H., in 1818. He was graduated at Dartmouth college in 1834, and, after devoting one year to the study of law, went to Europe, travelled in Great Britain and Germany, and resided some time in Paris, where he attended the lectures of the most eminent professors both of medicine and law. Returning to America, he entered upon the practice of law, first at Waterford, N. Y., and then in New York city. His works are: "Re-

miniscences of an Old Man," published in the "Knickerbocker Magazine," "St. Leger, or the Threads of Life" (New York and London, 1849); "Letters from England;" "Letters from Cuba" (1850); "Cuba and the Cubans" (1850); "Romance of Student Life Abroad" (1853); and "Lecture before the New York Law Institute."

KIMOHI, or KIMHI, DAVID, a rabbi of Narbonne, celebrated as a Hebrew grammarian, lexicographer, and commentator, flourished in the earlier part of the 13th century. He was the son of Rabbi Joseph Kimchi, surnamed *Mestre Petit*, who about the middle of the 12th century emigrated from Spain during a persecution by the Moslems, and the younger brother and pupil of Rabbi Moses, both distinguished as writers on the same sciences in which David was to eclipse all his predecessors. He was early initiated into the study of philosophy, which at that period had reached its golden age among the Jews of Spain and southern France, especially through the works of Maimonides, of which, in a lively rabbinical controversy, he toward the decline of his life became one of the most eminent defenders. He died in old age. Conscientious research and an uncommonly sound critical judgment are the chief, though not the only merits of Kimchi's writings, which have been regarded down to this day, both by Jewish and Christian scholars, as standard works in their branches. Beside some fragments and minor works, there are extant the "Hebrew Grammar" (Venice, 1545; Leyden, 1681, &c.), and "Hebrew Dictionary" (Naples, 1490; Venice, 1529 and 1552), and commentaries on the prophets, the Psalms, and Chronicles.

KINBURN, a fortress in the Russian government of Taurida, situated on a small peninsula at the mouth of the Dnieper. With the opposite fortress of Otchakoff, it completely commands the entrance of that river. About a mile from the fort stands the pretty village of Kinburn. Most of its inhabitants are fishermen. Within the fort is a monument dedicated to the memory of Gen. Suwaroff, who gained a signal victory over the Turkish invaders there in 1787. On Oct. 17, 1855, after a bombardment of several hours, the fort surrendered to the Anglo-French squadron, and the Russian commander Kochanovitch with his garrison of 1,400 men were taken prisoners. French troops were stationed there during the following winter, notwithstanding the great intensity of the cold. The ships and floating batteries were imbedded in the ice of the Dnieper, and the vessels converted by the French into regular fortifications, the ice being sawn away for some distance, so as to form a deep ditch round each vessel, while the pieces of ice which had been cut away were piled up and used as barricades. No attack however took place. On May 16, 1856, the French evacuated it, and Kinburn was then restored to Russia.

KINCARDINESHIRE, or THE MEARNS, a maritime co. of Scotland, bounded N. by Aberdeenshire, from which it is separated by the

river Dee, E. by the German ocean, and S. and W. by Forfarshire, from which it is divided by the North Esk; area, 381 sq. m.; pop. in 1851, 84,598. Geographically the county is divided into the Grampians or hill district, Deeside, the valley or "howe" of the Mearns, and the coast side. Mount Battock, the highest point of the Grampians in Kincardineshire, is 3,500 feet high. The county is mainly agricultural. There are manufactures of linen. On the coast there are 13 or 14 fishing villages. Capital, Stonehaven.

KINESIPATHY. See LING, PETER HENRIK.

KING (Germ. *König*; Dutch, *konink*; Swed. *konung*, *kung*; Dan. *konge*; Icel. *konunga*, *konge*), a title of dignity designating the supreme ruler of a nation or country. The etymology of the word is far from being settled, some deriving it from the old Gothic *chuni*, family or (noble) race; others from roots like *know*, *can*, *ken*, denoting ability; while others compare it with *khan* and other eastern terms of similar meaning. The Romanic languages all use words little altered from the Latin *rex* (ruler), which was the title of the first 7 sovereigns of Rome, while those who followed the fall of the republic assumed that of *imperator* (commander), now altered into our emperor. The difference between king and emperor, and between kingdom and empire, is not always one of power or extent, but is sometimes the result of historical developments. Thus Louis XIV. and Louis Philippe were satisfied with the title of king, while the sovereign successor to the unaltered dominions of the latter, Napoleon III., assumed that worn by the conqueror from whom he derived his historical claims to power. Soulouque, who like both Napoleons paved his way to the throne by a *coup d'état*, also chose the title of emperor. In Europe there are 15 independent kingdoms, viz: Great Britain and Ireland, Prussia, Sweden and Norway, Spain, the Two Sicilies, Sardinia, Portugal, Bavaria, Denmark, Holland, Belgium, Greece, Hanover, Württemberg, and Saxony. The grand duchies and the electorate (of Hesse) rank next in dignity and power, some of the former surpassing in extent and population the minor kingdoms. Thus Tuscany is superior in territorial extent to Württemberg, and Baden to Saxony. Beside these 15 kingdoms there are others in Europe which, having lost their independence, have maintained their title, adding it to those of the other possessions of their rulers. Thus the emperor of Russia is king of Poland, and the emperor of Austria king of Hungary, Bohemia, &c. There are also some titles preserved by houses who have lost the possessions to which they were attached. The emperor of Austria styles himself king of Jerusalem, and the king of Sweden also king of the Vandals. The royal dignity in Europe is now everywhere hereditary. Formerly there were elective kings of Poland, Hungary, &c.; the former were little more than presidents for life of a republic. The successor elect of the German emperors was called king of

Rome; the same title was bestowed by Napoleon I. on his son. The period of Napoleon was productive of new kingdoms, of which some, as Westphalia and Etruria, were short-lived.

KING, CHARLES, an American journalist, president of Columbia college, born in New York in March, 1789. He is the 2d son of Rufus King, and during the residence of his father as American minister at St. James he was sent with his brother John A. King to Harrow school, and in 1805 to a preparatory school in Paris. In 1810 he married Eliza, the eldest daughter of Archibald Gracie, then a leading merchant of New York, with whom he was associated in business. Upon the breaking out of hostilities with Great Britain, Mr. King, though a federalist, deemed it right that the war should be prosecuted to an honorable and successful result; and as a member of the legislature of his native state in 1818, and as a volunteer in the autumn of 1814, he acted upon those sentiments. In 1823 the firm of which he was a member failed, and Mr. King became associated with Johnston Verplanck in the publication of the "New York American," a conservative newspaper, of much political influence and a high literary character, until 1827, when Mr. Verplanck retired and Mr. King continued sole editor. After its publication was discontinued Mr. King was associated in the conduct of the N. Y. "Courier and Enquirer" from 1845 until 1849, when he was chosen president of Columbia college, which office he still occupies. During his presidency the usefulness and the wealth of the college have been greatly increased.

KING, JOHN CROOKSHANKS, an American sculptor, born in Kilwinning, Ayrshire, Scotland, Oct. 11, 1806. He was educated as a practical machinist, and emigrating to the United States in 1829 was employed for several years in Cincinnati and Louisville as superintendent of a factory. In 1834, at the suggestion of Hiram Powers, he made a model in clay of the head of his wife, and the success with which the work was accomplished encouraged him to adopt the profession of a sculptor. From 1837 to 1840 he resided in New Orleans, and modelled a number of busts of public men and made cameo likenesses. Subsequently he removed to Boston, where he now lives. He has executed several busts of Daniel Webster, also those of John Quincy Adams, Dr. Samuel Woodward, Professor Agassiz, Ralph Waldo Emerson, and other men prominent in public life or literature.

KING, JOHN P., an American lawyer and financier, born in Barrow co., Ky., about 1800. His father, soon after the birth of this son, removed to Bedford co., Tenn. After receiving an ordinary school education he studied law with Major Freeman Walker of Augusta, Ga., and was admitted to the bar before he was 19 years of age. Major Walker was shortly afterward elected to the United States senate, and Mr. King succeeded to his large practice, which he prosecuted with success for 3 years. He then travelled extensively in Europe, remaining there

several years, and attended lectures in Paris and Edinburgh. After his return from Europe he resumed his profession (in 1825), and at once entered into a highly lucrative practice, but he again abandoned it in 1829. He was elected in 1833 to the senate of the United States by the union democratic party, to fill an unexpired term. He was subsequently reelected for the full term of six years, but in 1837 resigned, avowing his intention to retire to private life. In 1842, when the country was in a state of unusual depression from a recent revulsion, he took charge of the Georgia railroad company, which, like most others of similar character in that day, had failed. Under Mr. King's management it was speedily revived and the road finished, and he has continued president of the company until the present time, the stockholders having refused to allow him to resign. Various other roads extending the connections of the Georgia road, north-west and south-west, have been projected and completed, mainly under his auspices. He received the title of judge by executive appointment, but at the close of the term declined a reelection.

KING, MITCHELL, LL.D., an American judge, born in Scotland, June 8, 1788. In youth he was a severe student and general reader, and began early to write essays. He went to London in 1804, and sailed for Malta in 1805 in a merchantman under convoy of two ships of war, witnessed the fight in which the convoy was destroyed by two French frigates, and was taken as a prisoner to Malaga. After studying the Spanish language he escaped from captivity, and sailed in an American vessel for Charleston, S. C. There he opened a school in 1806, and began to write verses for the newspapers, which attracted considerable attention; and he was soon promoted to a professorship in the college of that city. He began to study law in 1807, continuing his duties as teacher; was one of the founders of the philosophical society in 1809, among the first members of which were Hayne, Gadsden, Grimke, Prioleau, and others, and before which he delivered lectures on astronomy. In 1810 he was admitted to the bar. He soon distinguished himself in various departments of his profession, was prosperous in practice, and in 1815 revisited Europe. In 1819 he became judge, or, as the office was then called, recorder of the city court of Charleston. As early as 1816 he had denounced the principle of a protective tariff as unwise and impolitic, though not illegal, and in 1830-'32 was an active member of the union party, and opposed the doctrine of the state veto, or nullification. As a citizen of large fortune he was prominent in the plans for extending the communications of South Carolina with the West, and was a delegate to numerous conventions held for the purpose. He succeeded Gen. Hayne as president of the Louisville, Cincinnati, and Charleston railroad, a great scheme which ultimately failed. In 1840 he again visited Europe; in 1842 he again became judge of the city court, which office he resigned

in 1844; and at different periods he served as delegate in the state convention, and as president of the trustees of the medical college, and of other societies for the promotion of art, literature, science, and public enterprises. He originated the Charleston literary club, and has written numerous essays and addresses for various societies and literary institutions. The degree of LL.D. has been conferred upon him by the college of Charleston and the university of East Tennessee. He has an extensive reputation for various learning and cultivated tastes, as well as for refined and liberal hospitality. His library of 20,000 volumes is regarded as one of the best private collections in the country.

KING, PETER, lord, an English chancellor, born in Exeter in 1669, died in Ockham, Surrey, July 22, 1784. His mother was a sister of the philosopher Locke, at whose suggestion he was sent to the university of Leyden. He afterward entered himself at the Inner Temple, and was called to the bar. In 1699 he commenced his political career, and was elected to parliament for Beer-Alston, Devonshire, which he represented to the end of the reign of Queen Anne. In 1709 he was appointed one of the managers to conduct the impeachment of Sacheverell; and in 1712 acted as counsel, without fee, in defence of Whiston. Soon after the accession of George I. he was made chief justice of the common pleas, and a privy councillor; and in June, 1725, on the removal of the earl of Macclesfield, he was raised to the dignity of lord chancellor, with the title of Baron King of Ockham. He held office till Nov. 26, 1738, when ill health compelled him to resign. He did not figure well on the wool-sack, and more of his decrees are said to have been set aside than of any former chancellor. He was the author of various works in support of the rights of Protestant dissenters, the most important of which perhaps is his "Inquiry into the Constitution, Discipline, Unity, and Worship of the Primitive Church" (London, 1691).

KING, PHILIP PARKER, a British admiral, born on Norfolk island, Dec. 13, 1793, died at Grantham, near Sydney, N. S. W., in Feb. 1855. He was the son of a naval officer, who, from the ability he exhibited in the settlement of Norfolk island, was appointed governor of New South Wales in 1800. His son entered the British navy in 1807. In 1817 he was intrusted with the conduct of an expedition to Australia, returning to Europe in 1823, when he published the results of his survey of the inter-tropical and western coasts; the atlas to this work was issued by the hydrographical office at the admiralty. In 1825 he was appointed to survey the S. coast of America, from the entrance of the Rio Plata round to Chiloe, and of Terra del Fuego, and published in 1832 "Sailing Directions to the Coasts of Eastern and Western Patagonia, including the Straits of Magelhaen and the Sea Coast of Terra del Fuego." Afterward he returned to Australia, where he took an ac-

tive part in public institutions and in political affairs, having been elected in 1851 to the legislature. Shortly before his death he was appointed rear admiral of the blue, being the first instance of a native of Australia rising to so high a rank in the British navy.

KING, RUFUS, an American statesman, born in Scarborough, Me., in 1755, died in Jamaica, L. I., April 29, 1827. His father, Richard King, a successful merchant, gave him the best education then attainable. He was prepared for college by Samuel Moody of Newburyport, and was admitted to Harvard college in 1778. During the revolutionary struggle which soon after commenced the college buildings were appropriated for military purposes, and the students were dispersed for a time. In 1776, after the evacuation of Boston by the British troops, the college was reopened in Cambridge, and there in 1777 Rufus King was graduated. He then went to Newburyport to study law under the direction of Theophilus Parsons. But war again broke in upon his studies, and when the expedition against Rhode Island, then occupied by the British, was organized in 1778 under Gen. Sullivan, Mr. King took part in it as a volunteer, and became aide-de-camp to Gen. Glover, who commanded a brigade of Maine men. Owing to the diversion of the French fleet of Count d'Estaing, upon the coöperation of which the success of Gen. Sullivan's expedition depended, the campaign was brief and fruitless. After receiving the thanks of his commander in an order of the day, Mr. King returned to his law studies, which he pursued without further interruption, was admitted to the bar in 1780, and entered on the practice of the law in Newburyport. He was successful from the outset, for he was diligent, methodical, learned, and eloquent. He was moreover sensitively alive to the great conflict in which his country was engaged, and bold and earnest in promoting all measures to strengthen her arms and her cause. In 1782 he was chosen by his townsmen one of their representatives to the general court of Massachusetts. In that body, to which he was repeatedly reelected, he took a leading part, and especially on one of the difficult questions which arose during the revolutionary struggle between the congress of the confederation and the legislature of the states—that of granting a 5 per cent. impost to the congress—he maintained with great ability and eventual success, against the powerful opposition of Gov. Sullivan and others, the indispensableness of granting this aid for the common safety and the efficiency of the confederation. In 1784 he was chosen by the legislature of Massachusetts a delegate to the continental congress, then sitting at Trenton. He took his seat in December, and in March, 1785, moved a resolution: "That there be neither slavery nor involuntary servitude in any of the states described in the resolution of congress of April, 1784, otherwise than in punishment of crime whereof the party shall have been personally guilty; and that this regulation shall be made an article of

compact and remain a fundamental principle of the constitution between the original states and each of the states named in said resolves." This resolution was, by the vote of 7 states (New Hampshire, Massachusetts, Rhode Island, Connecticut, New Jersey, Pennsylvania, and Maryland), against 4 (Virginia, both Carolinas, and Georgia), referred to a committee of the whole, where for the time it slept. The ordinance offered by Thomas Jefferson in the previous year (April, 1784) proposed the prospective prohibition of slavery in the territories of the United States after the year 1800; Mr. King's proposition was for its immediate, absolute, and irrevocable prohibition. When, two years afterward, the famous ordinance of freedom and government for the N. W. territory was reported by Nathan Dane of Massachusetts (July 11, 1787), Mr. King, who was a member of that congress (then sitting in New York), and a colleague of Mr. Dane, had gone to Philadelphia to take the seat to which he had been elected by Massachusetts as a member of the convention for framing a constitution for the United States. But his colleague embodied in the draft of his ordinance the provision, almost word for word, which Mr. King had laid before congress in March, 1785. While occupied with his duties as member of congress, Mr. King was designated by his state as one of the commissioners to determine the boundary between New York and Massachusetts, and was empowered with his colleague to convey to the United States the large tract of lands beyond the Alleghenies belonging to Massachusetts. On Aug. 14, 1786, Rufus King and James Monroe were appointed a committee on behalf of the congress to wait upon the legislature of Pennsylvania and explain to them the embarrassments of the finances of the United States, and to urge the prompt repeal by that state of the embarrassing condition upon which it had voted its contingent of the 5 per cent. impost levied by the congress on all the states. The speech of Mr. King on this occasion, though no notes of it remain, is commemorated as most effective and brilliant. On May 25, 1787, Mr. King took his seat in the federal convention, which, though called to meet on the 14th of that month, did not form a quorum till the 25th. He had renounced his practice at the bar, and gave himself wholly to the public service. While a member of congress he had married in 1786, in New York, Mary, daughter of John Alsop. The journals of the convention and the fragments of its debates which have come down to us attest the active participation of Mr. King in the important business before them; and the selection of him, one of the youngest members of that body, as one of the committee of five to which it was finally referred to "revise the style of, and arrange the articles" agreed on for the new constitution, affords the best proof of the estimation in which he was held by his colleagues. Having signed the constitution as agreed upon, Mr. King went back

to Massachusetts, and was immediately chosen by his old constituents of Newburyport one of their delegates to the state convention which was to pass upon its acceptance or rejection. Fierce opposition was made in that convention to this instrument, Mr. King leading the array in defence. He was successful, and the ratification was carried by 187 to 168. Mr. King took up his permanent residence in New York in 1788, and in the following year he was elected a representative of that city in the assembly of the state. In the summer of the same year he was chosen by the legislature the first senator from the state of New York under the new constitution, having for his colleague Gen. Schuyler. In this body Mr. King took rank among the leaders of the federal party. The political difficulties of the period were very great; the points, foreign and domestic, to be arranged, complex; and the finances of the country in deplorable confusion. But the public men of the day were equal to its exigencies, and the treaty negotiated by John Jay on behalf of the United States with Great Britain was ratified by the senate and vindicated against the fiercest opposition. In this conflict Mr. King was conspicuous both in the senate and as the joint author with Alexander Hamilton of a series of essays, through the newspapers, under the signature of Camillus. In 1795 he was reelected to the senate, and while serving his second term was nominated by Washington minister plenipotentiary to Great Britain, having previously declined the office of secretary of state, made vacant by the resignation of Edmund Randolph. He embarked with his family at New York in July, 1796, and for 8 years fulfilled most ably and acceptably the duties of the office. No foreign minister probably was more sagacious in ascertaining or divining the views and policy of nations, or more careful in keeping his own government well informed on all the public questions of the day. His diplomatic correspondence may be referred to confidently as a model both in style and in topics. The federal party having lost its ascendancy in the public councils, Mr. King, shortly after Mr. Jefferson's accession, asked to be recalled. He was however urged by the president to remain, as he had in hand important negotiations. The recurrence of war in Europe, consequent upon the rupture of the peace of Amiens, leaving little hope of success on the point to which his efforts had been chiefly directed, that of securing our seamen against impressment, he renewed his request to be relieved; and accordingly a successor was appointed, and Mr. King returned to his country in 1804, and withdrew to a farm at Jamaica, L. I., where he passed his time in study, in the pleasures of a liberal hospitality, keeping up his interest in all public concerns, in correspondence with friends in both hemispheres, and in improving and adorning his grounds. This philosophical retirement was broken in upon by the war of 1812, and he was called in 1813 to take his seat for the third

time as a U. S. senator. Yielding no blind support to the administration, and offering to it no partisan opposition, he yet was ever ready to strengthen its hands against the common enemy. When the capitol at Washington was burned by the British forces, he resisted the proposal to remove the seat of government to the interior, and rallied the nation to defend the country and avenge the outrage. His speech on this occasion in the senate was one of those that marked him as a great orator. At the close of the war he applied himself with like diligence to maturing the policy which should efface as speedily as possible the evils of war and build up permanent prosperity. To a bill, however, for a U. S. bank with a capital of \$50,000,000, he made earnest opposition in the senate. The claim of Great Britain to exclude us from the commerce of the West India islands he in like manner resisted; and to his intelligent exposition of the laws of navigation and of the mercantile interests and rights of the United States we are indebted for the law of 1818. He likewise early discerned the danger of the sales on credit of the public lands, and by his bill substituting cash payments and a fixed but reduced price for these lands, and stipulating a remission of interest and of a portion of the principal of the debt then due therefor, he averted a great political peril, and gave order and security to the receipts from the sale of those lands. In 1819 he was reelected, as in the previous instance by a legislature of adverse politics to his own, to the U. S. senate. Soon after the close of the war, and while at his post in the senate in the winter of 1816, he was, without his knowledge or consent, named as the candidate of the federal party for governor of the state of New York. His wish and purpose were at once to decline this nomination, for the sphere of duty of a senator was that in which he felt himself more fitted to be useful. But his political friends asked it of him as a debt to his party, and he yielded his own preference. He was not elected, and thus was left at liberty to pursue his senatorial career. Shortly afterward the Missouri question, as it has been called, began to agitate the nation. Mr. King was pledged against the extension of slavery; and when therefore Missouri presented herself for admission as a state with a constitution authorizing the holding of slaves, he was inexorably opposed to it. The state of New York, by an almost unanimous vote of its legislature, instructed him to resist the admission of Missouri as a slave state; and the argument made by Mr. King in the senate, though but partially reported, has been the repertory for almost all subsequent arguments against the extension of slavery. He was in like manner opposed to the compromise introduced by Mr. Clay, which partially yielded the principle, and voted to the last against it. His 4th term in the senate expired in March, 1825, when he took leave of that body, and as he hoped of public life, in which for 40 years he had been engaged. One of his latest acts was to present a

resolution, Feb. 16, 1825: "That as soon as the portion of the existing funded debt of the United States for the payment of which the public land of the United States is pledged, shall have been paid off, then and thenceforth the whole of the public land of the United States, with the net proceeds of all future sales thereof, shall constitute and form a fund which is hereby appropriated, and the faith of the United States is pledged that the said fund shall be inviolably applied, to aid the emancipation of such slaves within any of the United States, and to aid the removal of such slaves and the removal of such free persons of color in any of the said states, as by the laws of the states respectively may be allowed to be emancipated or removed to any territory or country without the limits of the United States of America." The resolution was read, and, on motion of Mr. Benton of Missouri, ordered to be printed. John Q. Adams, now become president, urged Mr. King to accept the embassy to England, with which country unadjusted questions of moment were pending, and which the president believed Mr. King, from his familiarity with those questions and his former experience as minister in England, was specially qualified to manage. He reluctantly accepted the mission; but his health gave way, and after a few months spent in England, where he was warmly welcomed, he resigned and came home to die.

KING, SUSAN (PETIGRU), an American authoress, born in Charleston, S. C. The daughter of James L. Petigru, an eminent lawyer of South Carolina, she was highly educated, and was married to Henry C. King, son of Judge Mitchell King. She is the author of several stories of fashionable life, as the "Busy Moments of an Idle Woman," a collection of social sketches; "Lily;" and "Sylvia's World," a series of short tales illustrative of flirtations, slander, coquetry, jilting, and similar fashionable vices. Their animation, clear and easy style, and piquant satire have attracted for them much attention; and these merits, together with local allusions, have given them remarkable popularity in South Carolina. Mrs. King is distinguished in society by her conversational talent, and especially by a frequent epigrammatic felicity of repartee and retort. She has been a contributor to several periodicals.

KING, THOMAS STARR, an American clergyman, born in New York, Dec. 16, 1824. He is the eldest son of the Rev. Thomas Farrington King, who in 1834 was settled as the minister of the first Universalist church in Charlestown, Mass. He was preparing to enter Harvard college when the sudden death of his father left the family in a measure dependent upon his services for a support. From the age of 12 to 20 he was employed either as a clerk or schoolmaster, devoting his leisure hours to theological studies, and in Sept. 1845, preached for the first time in the town of Woburn. In the succeeding year he was settled over his father's former parish in Charlestown, whence he was called in

1848 to the Unitarian church in Hollis st., Boston, with which he remained connected until the early part of 1860. In April of the latter year he sailed for San Francisco, to take charge of the Unitarian congregation in that city. Apart from his labors in the pulpit, Mr. King has acquired an extended reputation as a lecturer, having been regularly employed in that capacity from 1845 to 1860, and having in that time travelled many thousands of miles in all parts of the northern states. He is the author of "The White Hills, their Legend, Landscapes, and Poetry" (4to., illustrated, 1859), and of a number of articles in reviews, pamphlets, and sermons. In 1850 he received the honorary degree of A. M. from Harvard university.

KING, WILLIAM, an Irish bishop, born in Antrim in 1650, died in Dublin, May 8, 1729. He was educated at Trinity college, and ordained in 1674. In 1681 he became dean of St. Patrick's, but having taken a prominent part in the controversies of the time, and in opposition to the policy of the government, he was, after the revolution and the landing of James II. in Ireland in 1689, imprisoned in Dublin castle. On the departure of James he was liberated and restored to his deanery. In 1691 he was promoted to the see of Derry, and in 1702 became archbishop of Dublin. He was the author of many theological and controversial works, the most important of which is his treatise *De Origine Mali* (1702), which provoked attacks from several formidable antagonists, among whom were Leibnitz and Bayle.

KING, WILLIAM, the first governor of the state of Maine, born in Scarborough, Me., in 1768, died in Bath, June 17, 1852. He was during the greater part of his life, the last 50 years of which were passed in Bath, an active and successful merchant, but is better known by his public services in his native state. At an early period of his career he became a member of the Massachusetts legislature, and in that capacity was distinguished by his efforts in behalf of religious freedom, and of securing to original settlers upon wild lands the benefit of their improvements. He was an early and ardent advocate of the separation of Maine from Massachusetts, and upon the consummation of that act presided over the convention which met in 1819 to frame the constitution of the new state. He was subsequently elected the first governor of Maine, and, after holding office a little more than a year, became one of the U. S. commissioners for the adjustment of Spanish claims. He also held other offices of importance under the general and state governments, including that of collector of the port of Bath.

KING, WILLIAM RUFUS, an American statesman, 13th vice-president of the United States, born in Sampson co., N. C., April 6, 1786, died in Dallas co., Ala., April 17, 1853. He entered the university of North Carolina at Chapel Hill at the age of 12, and was graduated in 1808. He then commenced the study of law with William Duffy in Fayetteville, and was admitted

to the bar in 1806. In 1806 he was elected to the legislature from his native county, and was reelected in 1807; but at the meeting of the legislature he was appointed state solicitor for the Wilmington circuit, which office he held for two years, when he resigned. In 1809 he was again elected to the legislature. In 1810 he was elected to congress, and was twice reelected. In congress he united himself with Clay, Calhoun, and others, who advocated the war policy of Mr. Madison's administration, and voted for the declaration of war in June, 1812. In the spring of 1816 he resigned his seat in congress, and accepted the office of secretary of legation to Naples under William Pinckney. Mr. Pinckney was afterward transferred to St. Petersburg, and was accompanied to that court also by Mr. King as secretary. In the autumn of 1818 Mr. King returned home, having visited most of the European countries, and removed to Dallas co., Ala., where he continued to reside until his death. In the spring of 1819 he was elected to the convention which was called to form a constitution and a state government for Alabama, and was elected in 1819 one of the U. S. senators from the new state, drawing the short term of 4 years. He was successively reelected in 1823, 1828, 1834, and 1840. During all this time he acted uniformly with the democratic party. He supported Gen. Jackson for president in 1824, 1828, and 1832. Mr. King was frequently called to the chair of the senate as president *pro tem*. In April, 1844, he was appointed by President Tyler minister to France. The proposition for the annexation of Texas was then pending. England was known to be decidedly opposed to the scheme, and there was a general belief that her government was urging France to join in a protest against it. Mr. King was an active advocate of the annexation, and upon reaching Paris he directed his efforts to prevent this joint protest, in which he was successful. Mr. King returned to the United States in Nov. 1846. In 1848 Senator Arthur P. Bagby was sent as minister to Russia, and Mr. King was appointed by the governor of Alabama to fill the vacancy thus created. In 1849, the term for which he was appointed having expired, he was elected for a full term of 6 years. In 1850, on the accession of Vice-President Fillmore to the presidency after the death of Gen. Taylor, Mr. King was unanimously elected president of the senate. In 1852 he was elected vice-president of the United States, at the time Franklin Pierce was elected president. In Jan. 1853, he went to Cuba for the benefit of his health. By a special act of congress, the oath of office, as vice-president, was administered to him in Cuba by the American consul-general at Havana. In April, 1853, he returned to his home in Dallas co., Ala., where he died.

KING AND QUEEN, an E. co. of Va., bounded S. W. by Mattaponi and York rivers, and E. by the Piankatank; area, 335 sq. m.; pop. in 1850, 10,819, of whom 5,764 were slaves. The surface is moderately uneven. The

soil is not very fertile, but may be improved by the application of marl, of which the county contains large quantities. The productions in 1850 were 376,986 bushels of Indian corn, 68,755 of wheat, 48,888 lbs. of butter, 7,600 of tobacco, and 11,034 of wool. There were 2 saw mills, 18 churches, and 281 pupils attending public schools. Value of real estate in 1856, \$1,787,971, showing an increase of 80 per cent. since 1850. Capital, King and Queen Court House.

KING AT ARMS. See **HERALDEY**.

KING BIRD, an American flycatcher of the genus *tyrannus* (Cuv.), and species *T. carolinensis* (Baird) or *T. intrepidus* (Vieill.); other names given to it are tyrant flycatcher and field martin. This bird is 8½ inches long, with an extent of wings of 14½; the bill is stout, shorter than the head; the wings long and pointed, the outer primaries abruptly attenuated near the end; tail shorter than the wings, slightly rounded; on the crown a concealed patch of vermilion feathers edged with white and orange, capable of erection as a crest. The color above is dark bluish ash; below white, tinged with bluish ash on the sides of the throat and across the breast; the wings dark brown, the greater coverts and quills edged with white; tail broadly margined and tipped with white. It is found throughout eastern North America to the Rocky mountains, and in Washington territory. According to Audubon, the king bird arrives in Louisiana from the south about the middle of March; it proceeds gradually to the north, going back about the last of August. It prefers orchards, fields of clover, and the vicinity of houses, being seldom found in woods; the flight is rapid, performed by alternate flapings and sailings, much in the manner of our robin. The intrepidity of the king bird is remarkable, as it does not hesitate to attack the crow, vultures, hawks, eagles, and even cats and other animals approaching the nest, plunging upon their backs and striking with the bill; it is the farmer's friend in protecting eggs from the crow and chickens from the hawk, and in devouring noxious insects; and yet from its eating a few bees, raspberries, and figs, it is very generally persecuted. The nest is made in trees, and the eggs, 4 to 6, are reddish white with irregular spots of brown. The notes are tremulous and sharp, and uttered continuously during flight. Many are shot in the southern states, where their flesh is considered a delicacy.

KING GEORGE, an E. co. of Va., bounded N. and E. by the Potomac river and S. by the Rappahannock; area, 176 sq. m.; pop. in 1850, 5,971, of whom 3,403 were slaves. The surface and soil are both diversified. The productions in 1850 were 241,900 bushels of Indian corn, 76,707 of wheat, 40,090 lbs. of butter, and 12,306 of wool. There were 11 grist mills, 5 saw mills, 8 churches, and 200 pupils attending public schools. Value of real estate in 1856, \$1,492,585, showing an increase of 87 per cent. since 1850. Capital, King George Court House.

KING WILLIAM, an E. co. of Va., bounded N. E. by Mattapony river and S. W. by the Pamunkey; area, 270 sq. m.; pop. in 1850, 8,779, of whom 5,731 were slaves. It has a rolling surface and a good soil. The productions in 1850 were 253,685 bushels of Indian corn, 108,819 of wheat, 32,580 lbs. of butter, and 10,271 of wool. There were 4 grist mills, 9 churches, and 238 pupils attending academies and other schools. Value of real estate in 1856, \$1,698,502, showing an increase of 24 per cent. since 1850. Capital, King William Court House.

KINGFISHER, an extensive family of birds, with a lengthened, generally straight bill, broad at the base with acute tip, rounded wings, short tail, strong and short tarsi. The family includes, according to Gray, the sub-families *bucconinae* or puff birds, of tropical America; the *galbulinae* or jacamars, also South American, already treated; the *halcyoninae* or kinghunters, belonging to the old world; and the *alcedininae* or kingfishers, distributed the world over. The sub-family of kingfishers contains the genera *alcedo* (Linn.), *alcyon* (Swains.), and *ceryle* (Boie), with a long, straight, and slender bill, with the culmen sloping to the acute tip. In *alcedo* the wings are short, with the 1st quill nearly as long as the 2d and 8d, which are equal and longest; tail short, broad, and rounded; tarsi very short and robust; toes unequal, the middle one longest, and the inner one short; the claws short and curved. The species of this genus are found in most parts of the old world, where they frequent fresh water rivers and lakes, perching solitary on an overhanging branch, or skimming near the surface in pursuit of their fish prey; they sometimes plunge from a branch, and at others flutter over a spot, suddenly pouncing on a fish as it rises to the surface; they catch the fish with the bill, and swallow it whole head foremost, unless it be too large, in which case they beat it to pieces and swallow the separate fragments. The nest is made at the end of a long gallery which they excavate in the sandy or clayey banks of rivers by their bill and feet, and the eggs are 6 or 7, which are placed on ejected pellets of fish bones. The common kingfisher of Europe (*A. ispida*, Linn.) is about 7 inches long, with a long sharp bill, stout body, and short wings; it possesses many of the brilliant colors of tropical birds, the upper back being dark green, the lower back and rump bright blue; the upper part of the head, wing coverts, and stripe on each side of neck, green with numerous light blue spots; throat and neck stripe yellowish white, and lower parts pale chestnut. The eggs are pinkish white, and are placed in holes in river banks. This bird is the halcyon of the ancients, from whose period and habits of incubation arose the term "halcyon days." (See **HALCYON DAYS**.) Some of the older writers even attributed to the kingfisher the power of arresting the violence of the waves. In some parts of Europe it is still believed that the breast of a kingfisher suspended by the bill

will always be turned to the north, that when accurately balanced the bill will point in the direction of the wind even within doors, and that its head and feathers protect against witches and storms at sea, and are a sure means of securing the affections of a loved object. The flight is direct and rapid, and its note sharp and piercing and emitted on the wing. The genus *alcyon* (Swains.) has no inner toe; its few species are found in Australia and the Indian archipelago; their habits are the same as in the preceding.—The common kingfisher of this country belongs to the genus *ceryle* (Boie); this comprises several species, many of which are found in Africa and India; the tail is long and rounded, the tarsi uncommonly short and stout, and the inner toe much longer than the hinder. The belted kingfisher (*C. alcyon*, Boie) is found throughout North America; the length is about 18 inches, and the extent of wings 22; the head has a long crest; the color is blue above, without metallic lustre; a concealed band across the back of the head, a spot before the eye, and the lower parts white; a band across the breast, and the sides under the wings blue like the back; primaries white on the basal half; tail transversely banded and spotted with white. In the young birds there is a light chestnut band on the breast below the blue one, which last is more or less tinged with chestnut. Specimens from the Pacific coast are considerably the largest. It is a constant resident in the southern states; its flight is rapid, and it often suddenly stops like a sparrow hawk and hovers over the water, dashing headlong after its prey, which it carries to the nearest stump or tree and swallows instantly. It follows the course of rivers even to the cascades of their sources, and its presence near a sequestered stream is good evidence to the angler that trout are there abundant; it is fond of resorting to mill ponds, where the stillness of the water enables it easily to detect its prey. Its notes are very sharp, rapid, and rattling. The nests are made in holes dug to the horizontal depth of from 4 to 6 feet in a bank, the entrance being just large enough to admit a bird, and the end rounded like an oven; the eggs are generally 6, and pure white, and incubation lasts about 16 days, being performed by both parents; the eggs are considered good eating, though the flesh of the bird is fishy and tough. According to Audubon, this bird occasionally plunges into the sea after small fry. The Texas kingfisher (*C. Americana*, Boie) is only 8 inches long, with an extent of wings of a foot; the head is slightly crested; the general color above is glossy or metallic green, and below white; a pectoral and abdominal band of green spots, and a green line on each side of the throat; a collar on the neck, a double row of spots on the quills white; sometimes there is also a chestnut band. It is found in the Rio Grande region and southward.—The sub-family of *halcyonina* or kinghunters have the aspect and general habits of kingfishers, from which they differ principally in the broader and stouter bill. The genus *dacelo* (Leach)

is found in Australia and New Guinea; the species are not shy, and one, the *D. gigas* (Bodd) is 18 inches long; they go into the woods, and feed indiscriminately on any animals of suitable size, whether quadruped, bird, reptile, fish, insect, or crustacean; the colors are handsome, and the flight quick and noiseless; their powerful bills render them formidable, and they can successfully resist even the smaller birds of prey; some of the species have a peculiar screaming laugh at sunrise and sunset, which has caused the name of "laughing jackass" to be given to them in Australia. The showy genus *tanyptera* (Vigors) has a long wedge-shaped tail; it is found in New Guinea and the Philippine islands. The genus *halcyon* (Swains.), with about 50 species, inhabits Africa, Australia, India and its archipelago, and the South sea islands; some of these birds are very handsome, green and blue predominating; like the rest of this sub-family, they build their nest in the hollow trunks of trees. The genus *ceyx* (Lacép.), small, 8-toed, short-tailed, and purplish red, is found in India and its archipelago.

KINGLAKE, ALEXANDER WILLIAM, an English barrister and author, born in Taunton in 1802. He was educated at Eton and at Trinity college, Cambridge, and subsequently was entered as a student at law in Lincoln's Inn. He was called to the bar in 1827, and in a few years acquired an extensive chancery practice in London. Not long after his admission to the bar he made an extensive tour in the East, of which he wrote home many graphic descriptions. Upon his return to England he was induced to revise his letters for publication; but having attempted in vain to find a publisher, he threw the manuscript aside, and for some years thought no more upon the subject. Happening one day to be conversing with Mr. Ollivier, a publisher in Pall Mall, on the recent appearance of a book of travels, he offered to give him his manuscript if he would print it. The offer was accepted, and the work, published under the title of "Eöthen," was universally pronounced one of the freshest and most entertaining books of travel of the day. It went through numerous editions in England, was reprinted in the United States, and was translated into the principal languages of Europe. Mr. Kinglake was not allured by this brilliant success from his professional duties, and, with the exception of an article in the "Quarterly Review" on the political uses of the Mediterranean, entitled the "French Lake," and a "History of the Two Years' War in the Crimea, based chiefly on the Private Papers of Lord Raglan and other Authentic Materials," recently announced, he is not known to have made any further contributions to literature. In 1857 he was returned to the house of commons as member for Bridgewater.—JOHN ALEXANDER, cousin of the preceding, and an English lawyer, born in Taunton in 1806. He was educated at Eton and Cambridge, was called to the bar in 1830, made a sergeant at law in 1844, and at the same time appointed

recorder of Exeter, and in 1856 appointed recorder of Bristol. He is a member of parliament for Rochester, and an extreme liberal in politics, being in favor of the vote by ballot, the abolition of church rates, and other popular measures. He has contributed articles to the reviews, and the authorship of "Eöthen" has frequently been erroneously attributed to him.

KINGS, a S. E. co. of N. Y., forming the W. extremity of Long island; area, 72 sq. m.; pop. in 1855, 216,855. It lies between the East river and New York harbor and the Atlantic ocean, embracing several small islands adjacent to the coast. A range of drift hills, from 50 to 300 feet above tide, crosses the county from S. W. to N. E. The soil is a light sandy loam, capable of varied cultivation. Garden vegetables are extensively raised for the New York market, and nearly every other branch of business in the county is also dependent on the metropolis. The productions in 1855 were 54,179 bushels of Indian corn, 18,086 of wheat, 11,679 of oats, 868,243 of potatoes, 23,972 of peas and beans, 31,001 of turnips, 6,183 tons of hay, and 17,425 lbs. of butter; value of market garden produce, \$273,552. There were 5 grist mills, 2 saw mills, 15 furnaces, 4 tanneries, 10 newspaper offices, 49 school houses, and 149 churches. The county was organized in 1683. The Long island railroad runs through it, having its W. terminus at Brooklyn, the capital.

KING'S, a central co. of New Brunswick, drained by the St. John river; area, 1,828 sq. m.; pop. in 1851, 18,842. It is diversified by a succession of hills, some of which, as the Pisgah, Piccadilla, and Moose hill, rise to a considerable height. The whole county, with its large tracts of intervals and meadow, bays, and rivers, presents a varied and somewhat romantic landscape, and is one of the best agricultural counties of the province. The soil is fertile. Iron ore of fine quality is abundant. Coal exists, but has not yet been mined. Limestone and gypsum are plentiful, and there are many mineral springs. Capital, Kingston.

KING'S, a S. W. co. of Nova Scotia, situated on the bay of Fundy and Minas basin; pop. in 1851, 18,895. It has a broken and picturesque coast line, but the borders of the rivers Annapolia, Gaspereaux, Cornwallis, Cunard, Habitant, and Pereau are flat, with large tracts of the richest alluvial deposits. The principal settlements are on those streams and on the post road from Halifax to Annapolia. The Cornwallis river will admit steamers of light draft for upward of 20 miles. The soil is fertile, and the county contains iron ore, copper, silver, and slate. Capital, Kentville.

KING'S, an E. co. of Prince Edward island; pop. in 1848, 15,425. Its coasts are deeply indented by bays and inlets, and lined with settlements. There are also many villages in the interior. Capital, Georgetown.

KING'S, an inland co. of Ireland, province of Leinster, bounded N. by Westmeath, E. by Kildare, S. by Tipperary and Queen's co., and

W. by Roscommon, Galway, and Tipperary; area, 772 sq. m.; pop. in 1851, 112,080. On the S. the county is somewhat broken by ramifications of the Slievebloom mountains, of which the principal summits are Arderin, 1,738 feet high, Carrol hill, 1,584 feet, and Farbreague, 1,411 feet, with two others unnamed, respectively of 1,691 and 1,602 feet. The principal lakes are Loughs Fin, Boara, Annaghmore, and Pallas. The Shannon, Boyne, Barrow, and Brosna are the largest rivers. The soil is of average fertility, and agriculture is devoted to the usual corn crops. There are few minerals and no important manufactures. The county returns two members to parliament. Its chief towns are Birr and Tullamore.

KINGS, Books of, one of the chief divisions of the historical series of the canonical Scriptures. In their contents, if not entirely in style and arrangement, they are a continuation of the books of Samuel, as the latter are of that of Judges. Commencing with the conclusion of the history of David, which forms the chief contents of the books of Samuel, they relate the history of the Hebrew state under Solomon and Rehoboam, of the divided state under the rival dynasties of Israel and Judah, and of the latter alone, after the captivity of the 10 tribes, down to the destruction of Jerusalem by the Babylonians. They thus cover altogether a period of about 430 years, beginning with 1015 B. C. Some chapters dwell with special interest on the acts of the prophets Elijah and Elisha. Excepting these, the work seems to be an extract from the annals of the Hebrew kings, to which reference is frequently made. The name of the author is unknown. Some suppose him to be identical with the author of Samuel, which others regard as improbable on critical grounds. He was probably a contemporary of Jeremiah, if not that prophet himself. The division of the work into two books is not founded on any intrinsic reasons.

KING'S MOUNTAIN, a post village in Gaston co., N. C., in the vicinity of which is an eminence of the same name, situated in York district, S. C., which was the scene of a memorable conflict in the revolutionary war, Oct. 7, 1780. Immediately after the battle of Camden (Aug. 1780), Lord Cornwallis despatched Major Patrick Ferguson, an enterprising partisan officer, with a few hundred regulars and Tories, to scour the western part of South Carolina, with orders to join him at Charlotte, in Mecklenburg co., N. C. Ferguson's force was gradually increased by enlistments to 1,100 men, and the new recruits, mostly tory desperadoes of the worst stamp, committed frightful excesses upon the inhabitants of the country. In the latter part of September, when within a few days' march of Charlotte, he turned aside toward the mountains to disperse a small American force under Col. Clarke; but upon arriving at Gilbert Town, in what is now Rutherford co., N. C., he learned to his surprise that a large body of "mountain men," as the frontiersmen of Georgia and the

Carolinas were called, with many of the neighboring yeomanry and volunteers from Virginia, and even from Kentucky and Tennessee, had hastily assembled to oppose his progress. Breaking up his quarters, he pushed forward to join Cornwallis, sending expresses to inform the latter of his danger, all of whom, however, were intercepted. The patriot forces started immediately in pursuit, and upon arriving at Cowpens, the scene of Morgan's victory over Tarleton a few months later, on the evening of Oct. 6, were informed that Ferguson was at the Cherokee ford on Broad river, about 80 miles distant. They had no general officer, but Col. Campbell of Virginia was intrusted with the temporary command. At a general council of officers it was determined that 900 of the best mounted and equipped men, about half the force, should continue the pursuit, while the remainder should follow as fast as they could. The main body, marching all night, came up with Ferguson at 3 P. M. on the 7th, posted on King's mountain, a narrow stony ridge elevated about 100 feet from the neighboring ravines, and upward of a mile in length. The Americans were formed into 8 bodies, the centre commanded by Cols. Campbell and Shelby, the right by Cols. Sevier and McDowell, and the left by Cols. Cleveland and Williams, which moved simultaneously from different points upon the enemy. Ferguson, who had boasted that "if all the rebels out of hell should attack him, they could not drive him from his position," immediately charged Sevier and McDowell, and pushed them down the hill with the bayonet, the Tories using rifles and fowling pieces armed at the end with large knives. A flank fire from Cleveland and Williams caused him to turn against his new assailants; but the latter had scarcely been repulsed, when he was confronted by the centre under Campbell and Shelby and the rallied troops of Sevier. In this manner the fight continued for upward of an hour, until the enemy, harassed on all sides by the fire of the riflemen, which was rapidly thinning their ranks, were thrown into confusion, and began to retreat along the ridge. Ferguson, shouting to his men: "Crush the damned rebels to the earth," prepared for one final charge, and fell at the head of his regulars pierced by 7 bullets, dying, according to tradition, by the hand of Col. Williams, who was also slain. His men, disheartened by his fall, surrendered to the number of nearly 800, 240 having fallen. Only 200 escaped. The Americans lost only 20 men killed, although a large number were wounded. After the battle 10 of the prisoners notorious for their crimes were hanged, having first been regularly tried and condemned by their captors. This was one of the most brilliant victories of the war, and exercised an important influence in precipitating the downfall of British power in the South. The 75th anniversary of the battle was commemorated by a celebration on the ground, at which an oration was delivered by the Hon. S. T. Preston.

KINGSBOROUGH, EDWARD (KING), viscount, an English archaeologist, born Nov. 16, 1795, died in Dublin, Feb. 27, 1837. He is distinguished for his great work entitled "Antiquities of Mexico, comprising Facsimiles of Ancient Mexican Paintings and Hieroglyphics, together with the Monuments of New Spain by M. Dupaix, with their respective Scales of Measurement, and accompanying Descriptions; the whole illustrated by many valuable inedited MSS." (9 vols. fol., London, 1830-'48). The 8th and 9th volumes were published after his death, which took place from a fever caught in a debtors' prison, where he had been temporarily confined for resistance to an attempted imposition. The first 7 volumes are estimated to have cost upward of \$300,000. The work is chiefly valuable for its generally faithful reproduction, in facsimile, of such Mexican hieroglyphical or painted records and rituals as were known to exist in the libraries and private collections of Europe. These, however, are often carelessly arranged, and the pages so confused as to be utterly unintelligible except to advanced students in American archaeology. Most of the original speculations of Lord Kingsborough are exceedingly loose and crude, and mainly directed to the establishment of the hypothesis of the Jewish origin of the American Indians, or at least of the semi-civilized nations of Mexico and Central America. The 9th volume, containing the relation of Don Alva Ixtlixochitl, is imperfect, closing abruptly without finishing the relation. Since the publication of the work of Lord Kingsborough a large number of additional Mexican MSS. or paintings have come to light, including a considerable part of those collected by Boturini, and supposed to have been lost. It has also been found, by careful collation, that the facsimiles of the work are not always critically correct. Still, it must be regarded as by far the most important contribution to American archaeology that has yet been made, and the basis on which the study of Mexican history and antiquities must proceed.

KINGSLEY, CALVIN, D.D., an American clergyman, born in Annsville, Oneida co., N. Y., Sept. 8, 1812. He was graduated at Alleghany college, Penn., in 1841, entered the ministry of the Methodist Episcopal church, and was elected professor of mathematics in Alleghany college. In 1842 he was appointed to Meadville station, still holding his connection with the college. The following year was spent mainly in securing an endowment fund for the institution. In 1844 he was stationed in Erie, Penn., and at the close of his term as pastor returned to the college, and remained for a number of years a member of its faculty. The year 1855 was spent in raising funds for the endowment of the biblical department in the college, and the year following he was elected by the general conference editor of the "Western Christian Advocate." He is the author of a work on the "Resurrection of the Human Body."

KINGSLEY, CHARLES, an English clergyman, novelist, and poet, born in Holne, Devonshire, June 17, 1819. He is the son of the Rev. Dr. Kingsley, rector of St. Luke's, Chelsea, and formerly vicar of Holne, and springs from a family long established in Cheshire. Of his lineal ancestors one was a colonel in the parliamentary service, whose younger brother, emigrating to America, established there a branch of the family, which still flourishes; and another, Gen. Kingsley, commanded a brigade at the battle of Minden. The martial qualities and vigor of character which family tradition ascribes to these ancestors have been frequently manifested by their descendant, though in a different sphere of action. His childhood was passed at Holne vicarage, in a neighborhood abounding in interesting natural features, and in traditional and historical associations, and so fertile and beautiful as to have gained the name of the "garden of England." In his 14th year he was placed under the care of the Rev. Derwent Coleridge, at Ottery St. John, and at the age of 20 was sent to King's college, London, whence in 1840 he removed to Magdalen college, Cambridge. At the university he won distinction with ease, becoming a prizeman in his freshman year, and appearing, when he took his bachelor's degree in 1842, as a first class in classics, and a senior optime in mathematics. After a few months' study of the law he entered the church, and in 1844 was presented to the living of Eversley in Hampshire, of which parish he had previously been curate, and where he has resided down to the present time, combining the faithful and energetic discharge of his duties as a parish priest with literary labors which have gained him a wide-spread reputation. About the time of his presentation he was married to a daughter of Pascoe Grenfell, for many years a liberal member of parliament for Truro and Great Marlow. From the commencement of his labors in the ministry he had been impressed with the necessity of translating Christianity into the every-day life of the people, and making it the most effective means of social amelioration; and his "Twenty-five Village Sermons" (12mo., 1844), addressed to the rustic people who form the bulk of his parishioners, are characterized by great earnestness in the development of this idea, and by a fearless adherence to truth also, which won the sympathies of those for whose benefit they were intended, if they startled and even offended his rich and titled neighbors. His "Saint's Tragedy" (12mo., 1848), a dramatic poem founded on the history of Elizabeth of Hungary, the landgravine of Thuringia, and which contained the author's protest against a species of morbid asceticism which was beginning to affect the English church, attracted attention not less from its literary merits than from its supposed enunciation of the doctrines of what was known as "Christian socialism." The latter impression was not a little strengthened in the public mind by the fact that the work was ushered

into the world by a preface from the Rev. Mr. Maurice, with whom the author had recently allied himself in that theological movement known as the "Broad Church" party, and in whose schemes for ameliorating the physical and moral condition of the working classes he heartily concurred. As early as during his career at the university his sympathies had been excited by what seemed the unnecessary oppressions and privations of the laboring classes, and the revelations subsequently made by Mr. Henry Mayhew in his remarkable series of papers on "London Labor and the Poor" aroused him to immediate action in their behalf. Considering it a duty he owed to his sacred office to inquire into the truth of these revelations, he cooperated with Mr. Maurice and others, under the lead of that gentleman, in arranging a series of interviews with artisans and laborers, the result of which was the establishment among the latter of companies for the purpose of undertaking work in common and sharing the proceeds, the plan of coöperative associations seeming the most effective means of breaking down the system of competitive labor under which the workmen remained in degradation and poverty. The condition of the tailors being particularly deplorable, an experimental organization, called the "Working Tailors' Association," was formed, to which funds were lent through the exertions of the friends of the measure at an interest of 4 per cent. The scheme succeeded, and other associations more or less successful followed, in the establishment of which Maurice and Kingsley participated, insisting, however, that these and all other schemes for social improvement must be based on the truths of the Christian religion to insure their success. Under the influence of these investigations he published in 1850 his first and best known work of fiction, "Alton Locke, Tailor and Poet," a novel having a tailor for its hero, and dealing with the social and political abuses of the day with a vigor and earnestness which gained for the author the title of the "chartist parson," and fully identified him with the theories of the "Christian socialists." In it he aimed to show that while socialism in the French sense of that word was impossible in England, the problem of human misery growing in the midst of human well-being was pressing for a solution, and must be met; that the socialism of England was simply the plea of the suffering individual man to be considered in the arrangement of society; and that this socialism only demanded that every man should have an opportunity to make himself what duty and his conscience should point out to him. In a pamphlet published just before "Alton Locke" appeared, entitled "Cheap Clothes and Nasty," Mr. Kingsley had urged that public hygiene and political economy demanded that no individual man should be condemned from his birth to physical disease and moral despair. The story of "Alton Locke" was an elaboration of this plea clothed in the splendor of romance and weighty with the em-

phasis of tragedy. In like manner Mr. Kingsley's doctrines of "muscular Christianity," which have made so positive a mark upon the thought of the time, and which had their literary apotheosis in his romance, "Westward Ho! or the Voyages and Adventures of Sir A. Leigh, Knt." (8 vols. 8vo., 1855), have nothing in common with the creed of the German "rehabilitationists," but simply express his belief that a religious soul can be truly developed only in a healthy body. His prose publications, in addition to those mentioned, include "Yeast, a Problem" (8vo., 1851), "Hypatia, or New Foes with an Old Face" (2 vols. 8vo., 1853), a vivid historical and philosophical romance of the 5th century, both of which originally appeared in "Fraser's Magazine;" "Sermons on National Subjects preached in a Village Church" (2 vols. 12mo., 1852); "Phaëthon, or Loose Thoughts for Loose Thinkers" (8vo., 1852), a philosophical dialogue; "Alexandria and her Schools" (8vo., 1854), the substance of 4 lectures delivered in Edinburgh; "Sermons for the Times" (1855); "Glancus, or the Wonders of the Shore," a charming little treatise on marine zoology and botany, expanded from an article on natural history originally published in the "North British Review;" "The Heroes, or Greek Fairy Tales" (1856); "Two Years Ago" (1856); "Sir Walter Raleigh and his Times;" "Good News of God" (1859); and a variety of miscellaneous sermons and magazine articles. In all these works the author's imaginative power and philosophical grasp of thought are made subservient to a pervading argument in favor of the intellectual and social omnipotence of Christianity. As a lyric poet Mr. Kingsley has attained a high rank by a number of pieces scattered through his prose writings and contributed to various periodicals. A collection of them, including the "Saint's Tragedy," was published in America in 1856 (12mo., Boston), and republished in London in the succeeding year, followed in 1858 by a volume containing "Andromeda," a hexameter poem, and other pieces. —HENEY, brother of the preceding, born in Holne in 1824. He studied at Oriel college, Oxford, and subsequently passed many years in Australia. Returning to England in 1858, he published there a striking novel entitled "The Recollections of Geoffrey Hamlyn," which conveys some very impressive views of life in the southern continent.

KINGSLEY, JAMES LUCE, LL.D., an American scholar, born in Windham, Conn., Aug. 28, 1778, died in New Haven, Aug. 31, 1852. After having been for a short time a student in Williams college, he entered in 1797 the sophomore class in Yale college, where he was graduated in 1799. During the two years following he was occupied in teaching, first in Wethersfield, and afterward in his native town. In 1801 he was appointed a tutor in Yale college, and in 1805 received the newly established professorship of the Hebrew, Greek, and Latin languages in the same institution. He was re-

lieved of a portion of his duties in 1831, when a separate professorship of Greek was instituted, and of another portion in 1835, when a professorship of sacred literature was founded. In Latin he continued to instruct until his resignation in 1851. From 1805 to 1824 Mr. Kingsley was also librarian of the college. By his pupils throughout the country, 8 generations of whom came under his instruction, he is remembered with affection, and many stories are current among them of the exactness of his knowledge and the keenness of his wit. He published a few Latin text books, a historical discourse on the 200th anniversary of the founding of New Haven, a history of Yale college in the "American Quarterly Register," and a life of Ezra Stiles in Sparks's "American Biography."

KINGSTON, a township and the capital of Ulster co., N. Y., on the W. bank of the Hudson river, 90 m. N. from New York and 55 m. S. from Albany; pop. in 1855, 13,974. It is the terminus of the Delaware and Hudson canal, and communicates with Rhinebeck, a station on the Hudson river railroad on the opposite side of the river, by a ferry. Steamboats connect it with New York, Albany, and intermediate places. It has a large business in coal, stone, and ice by canal and river, and contains an extensive lime factory, a cement factory, 18 churches (2 Baptist, 2 Episcopal, 2 Jewish, 1 Lutheran, 5 Methodist, 2 Presbyterian, 3 Reformed Dutch, and 1 Roman Catholic), and a number of schools and academies. Kingston village, on Rondout creek, 2 m. from the Hudson, contains the county buildings, 8 churches, several seminaries, 8 banks, a savings bank, and 4 newspaper offices, and is an active business place; pop. in 1855, 8,971. The principal other villages in the township are Rondout at the mouth of Esopus creek, the seat of most of the river trade, and Eddyville on Rondout creek, $\frac{1}{2}$ m. above Kingston.—The earliest permanent settlement in the place was made soon after 1665. The first state convention of New York adjourned from Fishkill to Kingston in Feb. 1777. In September following the state legislature met here, but on Oct. 17 a British force under Sir Henry Clinton plundered the village and burned every house but one. The legislature had dispersed on their approach, and the public records were removed to the back settlements. The first constitution of the state of New York was framed at Kingston.

KINGSTON, a city of Frontenac co., Canada West, capital of the united counties of Frontenac, Lennox, and Addington, and formerly capital of the province, situated at the head of the St. Lawrence river, where it issues from Lake Ontario, and at the mouth of Catarqui creek, in lat. 44° 8' N., long. 78° 40' W., 198 m. S. W. from Montreal, and 165 m. E. N. E. from Toronto; pop. in 1852, 11,585; in 1858, 13,000. The harbor is deep and commodious, and is protected by Wolfe and Garden islands, which lie opposite the city at a distance of 3 m. On the W. is the entrance to the bay of Quinté,

and on the E. the terminus of the Rideau canal. Haldimand cove, E. of the city between Point Frederic or Navy Point and Point Henry, is the seat of a royal dockyard. On both these promontories there are fortifications which command the whole harbor. Fort Henry is the principal work of defence; there are also several martello towers near it, and as a military post Kingston is the strongest place in Canada after Quebec. The city is regularly laid out, the streets crossing each other at right angles. Most of the houses are built of blue limestone, which is quarried in the vicinity. Water is supplied partly from the river and partly from wells, some of which are impregnated with mineral substances, and the city is lighted with gas. There are many fine public buildings, among which are the city hall, constructed of hewn stone, and containing, beside the municipal offices, the post office, reading rooms, council room, and a market; the court house, the gaol, and several benevolent and literary institutions. Among the last are Queen's college (Presbyterian), and Regiopolis college (Roman Catholic), each of which receives from government £500 a year; Queen's college school, a mechanics' institute, a house of industry, a general hospital, an asylum for criminal lunatics in connection with the penitentiary, the Hôtel Dieu hospital and orphan asylum, a female academy and free school under the charge of the ladies of the congregation of Our Lady, &c. The provincial penitentiary is situated on the outskirts of the city. There are 18 churches, including a Roman Catholic cathedral. The commercial bank of Canada has its head office here, and 8 other banks have branches. The periodical press comprises 2 daily, 1 tri-weekly, 1 semi-weekly, and 2 weekly newspapers. The principal manufactures are portable steam engines, locomotives, boilers, agricultural implements, iron work, soap and candles, and leather. The Victoria iron works give employment to 75 men, and manufacture 8 tons of bar iron daily. There are also several breweries and distilleries, and various establishments connected with ship building, rigging, &c. Ship building formerly employed a considerable part of the industry of the city, and vessels of the largest class for river, lake, and ocean navigation were constructed here; but of late this branch of business has declined, the railroads interfering with the lake trade. There is a marine railway on which to haul out vessels that are to be repaired. The commerce of Kingston is protected by a board of trade. It is carried on by the lake, the Rideau canal, and the grand trunk railway, which passes within 2 m. of the city, with a branch running into the streets. The imports entered for consumption in 1858 amounted to \$1,754,794 (but this included a considerable amount entered under the reciprocity treaty and reexported), and the exports of domestic produce to \$378,071.—Kingston is one of the oldest settlements in Canada West, having been founded in 1784, and incorporated in 1838. It occupies the site

of Fort Frontenac, built in 1672 by Governor-General Frontenac.

KINGSTON, the principal seaport of the British colony of Jamaica, connected by railway with Spanish Town, situated in the county of Surry, on the S. side of the island; pop. about 32,000, of whom nearly 25,000 are colored. It is built on the N. of a fine landlocked harbor, 6 m. long and 2 m. wide, with a narrow entrance defended by forts, and forming a safe anchorage in which the largest navy might ride. The city is regularly laid out, in the form of a parallelogram, with streets 66 feet wide, built along an inclined plane rising from the sea by gradual ascent to the Liguarea hills, the highest of the Blue mountain range, about 6 m. distant. The space of ground between the hills and the sea is highly cultivated, and studded with residences, among which are the extensive barracks of Up Park, and the Admiral's Pen, or shore residence of the admiral commanding the West India squadron. Most of the houses are of brick, 2 stories high, with verandahs and gardens; but the streets are unpaved. The principal buildings are the Protestant churches, several Roman Catholic chapels and synagogues, a theatre, hospital, penitentiary and poorhouse, market house, Athenæum, free school, society of arts, commercial subscription rooms, &c. Most of the commerce of Jamaica passes through this port. The number of vessels arrived there in 1859 was 402, including 253 British and 87 American. The principal exports are sugar, rum, molasses, ginger, pimento, and coffee. From its situation it enjoys the sea breezes which blow regularly during part of most days in the year, with a land breeze at night. The thermometer ranges from 76° to 96°. The municipal government is vested in a mayor, 12 aldermen, 12 councilmen, and a recorder. It returns 3 members to the colonial house of assembly. Kingston was founded in 1692, immediately after the destruction of Port Royal by an earthquake. Port Royal was rebuilt at the extremity of a long neck of land called "the Palisades," which forms the S. shore of the harbor, and is the naval station.

KINGSTON, ELIZABETH CHUDLEIGH, duchess of, an English peeress, born in 1720, died near Paris, Aug. 28, 1788. Her father, Col. Chudleigh, governor of Chelsea college, died when she was very young, leaving his family in narrow circumstances. As she grew up, her beauty and vivacity attracted much attention; and in her 18th year, by the influence of Mr. Pulteney, afterward earl of Bath, she was appointed a maid of honor to the princess of Wales, the mother of George III. At the princess's court at Leicester house she became one of the reigning toasts of the day, and among her numerous admirers was the duke of Hamilton, whose proposals of marriage she accepted, with the understanding that the nuptials should be celebrated on his return from a visit to the continent. During his absence Capt. Hervey, grandson of the earl of Bristol, became enam-

ored of her, and by the assistance of her aunt, Mrs. Hanmer, who intercepted the letters addressed by the duke to Miss Chudleigh, succeeded in alienating her affections from his rival and in persuading her to be privately married to himself. The day after the marriage, which took place Aug. 5, 1744, she conceived so violent a dislike for her husband that she resolved never to see him again. The duke of Hamilton soon after returned to England, and was naturally astonished that his claim to her hand should be rejected. To escape his reproaches, and those of her mother, who was a stranger to her marriage, at her apparently unreasonable rejection of this and other advantageous offers, she visited the continent, where she pursued a career of scandalous dissipation. During a residence at Berlin Frederic the Great paid her marked attentions, and at Dresden the electress loaded her with presents. Returning to England, she resumed her duties at the court, and became one of the leaders in the fashionable profligacy of the age. The marriage with Capt. Hervey, however, perpetually annoyed her, and in order to destroy all evidences of it she contrived to tear the leaf out of the parish register in which it was recorded. The death of her husband's grandfather, the earl of Bristol, having improved his prospects of succeeding to the earldom, she obtained the restoration of the leaf. Meanwhile the duke of Kingston, ignorant of her marriage, solicited her hand; and having prevailed on her husband to allow a divorce by mutual consent to be pronounced at doctors' commons, she was married a 2d time, March 8, 1769. The duke died 4 years afterward, leaving her in possession of a princely fortune on the condition that she should not again marry. Forthwith she plunged into a course of licentiousness, the censure excited by which constrained her to leave the country for a time. She sailed for Italy in her own yacht, and while living in Rome in great magnificence learned that the family of the duke of Kingston were about to establish against her a charge of bigamy on the ground that her first marriage had been declared void by an incompetent tribunal. Her banker, who was in the interest of her adversaries, refused to advance her money to leave the country, whereupon she proceeded to his residence, pistol in hand, and extorted it from him. Upon arriving in England she found public opinion strongly against her. Foote satirized her in his "Trip to Calais," under the name of "Kitty Crocodile," which however she found means to have prohibited. But, with a vindictiveness which nothing could appease, she caused some outrageous charges to be trumped up against him, the mortification attending which so affected him that he died soon after. On April 15, 1776, the trial of the duchess came on in Westminster hall, which had been fitted up with great state for the purpose, and during the 5 days that it lasted attracted members of the royal family and throngs of distinguished persons. The duchess, attended

by numerous counsel, addressed the peers with great energy, but was declared guilty. Thereupon she pleaded the privilege of the peerage, having now virtually become the countess of Bristol, to which title her first husband had succeeded, and thus escaped the punishment of burning on the hand, with which Dunning had threatened her. She retained her fortune, however, and the utmost efforts of her opponents were powerless to affect the validity of the late duke's will. Thenceforth she became a voluntary exile from England, visiting various European courts, and among others that of Catharine II. of Russia, who received her with great kindness. She ended her days at her chateau in the neighborhood of Paris.

KINGSTON-UPON-THAMES, a municipal borough, town, and parish of Surrey, England, on the E. bank of the Thames, at the mouth of the Ewell, 10 m. W. S. W. from London; pop. of the borough in 1851, 12,144. It extends about 1½ m. along the river, is irregularly built, and contains several interesting edifices, among which are an ancient cruciform church and a handsome new town hall. There are several endowed schools. A Roman town or station was built on the site now occupied by Kingston, and various traces of it, such as coins and other antiquities, have been brought to light. A great ecclesiastical council was held here by Egbert in 838, and many Saxon kings were crowned here.

KINGSTOWN, a seaport and watering place of Ireland, co. of Dublin, on Dublin bay, 7 m. by railway S. E. from Dublin; pop. in 1851, 10,458. It possesses, in the words of the tidal commissioners' official report, "one of the most splendid artificial ports in the United Kingdom." The harbor of refuge, begun in 1816, from designs by Rennie, consists of 2 piers and a breakwater, the E. pier being 3,500 feet long, and the W. 4,950 feet, with an entrance 850 feet wide, and enclosing an area of 250 acres, with a depth of water of from 15 to 27 feet; it cost £750,000. A revolving light marks the entrance in lat. 53° 18' N., long. 6° 8' W. Kingstown is the mail packet station for communication with Dublin and Holyhead. Over 2,000 ships enter and leave the harbor annually.

KINIO ACID, also called cinchonio and quinic acid, is obtained in combination with lime in evaporating the infusion of Peruvian bark to a solid consistence, and treating the extract with alcohol. The salt is insoluble in alcohol, but when dissolved in water crystals are obtained by evaporation. These, being separated and redissolved, may be decomposed by addition of oxalic or sulphuric acid, and after separating the lime salt the kinio acid may be itself crystallized in transparent, colorless, rhomboidal plates. These have a sour taste, and readily dissolve in water or alcohol. Their composition is expressed by the formula $C_{11}H_{11}O_7$. By combining the acid with cinchonia or quinine it is restored to the saline condition in which it existed in the bark, and may thus be applied in medicine in concentrated form more

nearly representing the peculiar character of the bark than in the ordinary combinations of the alkaloid with sulphuric or other mineral acid. Kinic acid by its presence serves to distinguish genuine barks. The method of testing is to boil $\frac{1}{2}$ oz. of bark with a little lime, and, after pouring off and concentrating the liquor, to commence distilling it in a retort with a mixture of half its weight of sulphuric acid and peroxide of manganese. If kinic acid is present, a volatile substance called kinone or chinone, of yellow color and peculiar odor, the vapor of which is very irritating to the eyes, comes over with the first portions, and is instantly recognized. The spurious barks having no kinic acid do not afford kinone.

KINKEL, JOHANN GOTTFRIED, a German poet and patriot, born in Obercassel, Aug. 11, 1815. He was at first devoted to theology and afterward to the study of philosophy, and particularly of the history of art, holding professorships in each branch at the university of Bonn (1837-'48). He has written lyrical poems which have passed through many editions, several books on the fine arts, especially Christian art, and other miscellaneous works. Implicated in the revolutionary movements of 1848 and 1849, during which time he had taken part in the organization of societies for the laboring classes and in military operations against the German governments, he was sentenced to perpetual imprisonment and was confined in the fortress of Spandau. In 1850 he effected his escape with the assistance of some devoted friends, particularly of Karl Schurz, since noted as an orator in Wisconsin. He fled to England, and, after spending some time in the United States, returned to the former country, where he now resides, engaged in teaching, lecturing, and journalistic labors. He married the divorced wife of the publisher Mathieux of Cologne, a Roman Catholic lady, whose maiden name was Johanna Mockel. She shared her husband's political views, and took an active part in some of his literary labors. She was an accomplished musician and writer on music and other subjects. Her health became impaired by over-exertion in laboring for the support of her family, and she lost her life in 1859 by falling or throwing herself out of a window. Parts of a novel left by her were published by her husband in 1859.

KINNEY, a S. W. co. of Texas, separated from Mexico by the Rio Grande, and drained by numerous small tributaries of that river; area, 2,400 sq. m. It has a level and well timbered surface. The soil is best suited to grazing. Capital, Brackett. It was formed from Bexar county in 1850.

KINO. See GUM.

KINROSS, the smallest county in Scotland, bounded E. and S. by Fifeshire and W. and N. by Perthshire; area, 72 sq. m.; pop. in 1851, 8,924. Looh Leven, covering an area of 3,800 acres, and abounding in fish, occupies the centre of the county. The remainder of the surface is level and well cultivated. Its minerals are coal, lime-

stone, and iron. The chief towns are Kinross and Milnathort, with other manufacturing villages employed in the production of plaids, shawls, &c. Kinross-shire and Clackmannanshire together send one member to parliament.

KIP, WILLIAM INGRAHAM, D.D., an American clergyman and author, bishop of the Protestant Episcopal church in California, born in New York, Oct. 3, 1811. He was graduated at Yale college in 1831, and, after devoting some time to the study of the law, entered the general theological seminary of the Episcopal church in New York, and was ordained a deacon in 1835. In 1838 he was called to the rectorship of St. Peter's church in Albany, which position he retained until his consecration in 1853 as missionary bishop of California, where he has since resided, in the active discharge of his episcopal duties. As an author he is well known to a large circle of readers by a variety of popular religious treatises, including "The Lenten Fast," "The Double Witness of the Church," both of which have passed through many editions; "Recantation, or the Confessions of a Convert to Romanism;" "Early Jesuit Missions in North America;" "Early Conflicts of Christianity;" and a series suggested by a visit to Italy in 1844-'5, consisting of "Christmas Holidays in Rome," "Domestic and Religious Life in Italy," and "The Catacombs of Rome," the latter a work of considerable interest founded on personal observations and explorations. He has also been a frequent contributor to periodicals connected with the Episcopal church.

KIPPIS, ANDREW, D.D., an English dissenting clergyman and author, born in Nottingham in 1725, died in London in 1795. He was educated at Northampton, in the theological seminary of Dr. Doddridge, and, after discharging the duties of pastor for some years to the Unitarian congregations of Boston in Lincolnshire and Dorking in Surrey, he removed in 1758 to London, where he became minister of the Unitarian chapel of Prince's street, Westminster. In 1768 he succeeded Dr. Jennings as classical and philosophical master of Coward's theological academy, and for a brief period acted in the same capacity at the new Unitarian institution at Hackney. His most important works are his edition of the "Biographia Britannica," which he commenced in 1777, and of which he published 5 vols.; and a "Life of Captain James Cook" (2 vols. 8vo., 1788). He also edited the works of Dr. Nathaniel Lardner and Dr. Doddridge.

KIRBY, WILLIAM, an English naturalist, born in Winesham, Suffolk, Sept. 19, 1759, died in Barham, July 4, 1850. He was graduated at Caius college, Cambridge, in 1781, and in the succeeding year took orders, and was appointed to the curacy of Barham. At the end of 14 years, he became the rector of the parish, a position which he filled during the remainder of his life. At the outset of his career he entertained strong opinions against the doctrines of the French revolutionists, and employed his pen in the support of government; but he soon re-

signed political controversy for natural history. Becoming interested in entomology, he joined the Linnæan society upon its formation in 1788, and became a frequent contributor to its "Transactions." In 1802 appeared his *Monographia Apium Anglia* (2 vols., Ipswich), the first scientific English work of its class. Several years later he joined his friend Mr. Spence, of Hull, in a project for preparing a popular treatise on entomology, the result of which was the publication in 1815 of the 1st volume of "Kirby and Spence's Introduction to Entomology," of which the 2d volume appeared in 1817, and the 3d and 4th in 1826. The work has gone through many editions, that of 1856 being the latest, and is one of the most pleasing and instructive of its class ever written. Rather more than half of it was contributed by Mr. Kirby. In 1880 he produced a Bridgewater treatise on the "Habits and Instincts of Animals with reference to Natural Theology," and he subsequently wrote the description of insects in Sir John Richardson's *Fauna Boreali-Americana*, beside several minor works. He was a member of the chief scientific bodies of Europe and the United States. His biography was written by the Rev. John Freeman (London, 1852).

KIROHER, ATHANASIUS, a learned German, born in Geiss, Hesse-Cassel, May 2, 1602, died in Rome, Nov. 28, 1680. He was educated at the university of Würzburg, where he afterward taught philosophy and the oriental languages. On the outbreak of the 80 years' war he retired to France, and passed 2 years in the Jesuits' college at Avignon. He then went to Rome, and in 1637 was appointed by the pope to attend Cardinal Frederic of Saxony to Malta. He was afterward for 8 years professor of mathematics in Rome. His most important works are: *Prodromus Copticus sive Aegyptiacus* (Rome, 1636); *Lingua Aegyptiaca Restituta* (1644); and *Latium* (Amsterdam, 1671), with valuable maps and plans. He was a voluminous writer on mathematical and physical science, and his *Mundus Subterraneus* (1669) comprises all the geological knowledge of the day.

KIRGHEEZ, KIRGHIS, or KIRGIS, STEPPES OF THE, a tract of W. Asia, lying partly in the N. of Toorkistan and partly in the Russian governments of Orenburg and Omsk, between lat. 44° and 55° N., long. 58° and 82° E., bounded N. by Tobolsk and parts of Omsk, E. by Soongaria or the country of the Eleuths, S. by the khanates of Khokan and Khiva, and W. by the Caspian sea and the Ural river; area estimated at 300,000 sq. m.; pop. at 2,260,000. These limits include the steppes of Ishim and Irtysh, through which flow the rivers of the same names. The surface consists chiefly of barren plains, broken here and there by mountain ridges and diversified by salt lakes, some of which are of great size. Lakes Balkash, Issikul, Kurgalfin, Sumy, and Thamy are the largest. Some of the land is arable, and a rude sort of agriculture is carried on near the rivers; millet, rye, and barley are the principal pro-

ductions. The Kara-su, the Sihon and its tributaries, the Turgai, Tchui, Tobol, Ishim, and Irtysh are the most considerable rivers. There are several copper mines, which are worked by the Russians. The climate is variable, and hurricanes are frequent and violent.—The Kirgheez are divided into the Little, Great, and Middle hordes, which are politically independent of each other. Most of them are nominally subject to Russia, and the dignity of khan has for some years been disallowed among them as a title of authority. They belong to the Turkish race, but their physiognomy betrays a large admixture of more eastern blood. They resemble the Usbecks, speak the same language, and profess to be related to them. Their stature is under the middle size, their countenance disagreeable, their eyes deep set and elongated, and their cheeks large and bloated; the women are rather pretty and delicately formed. The men, though not muscular, are hardy and vigorous. Their chief occupation is tending sheep, goats, horses, and camels. They have a few domestic manufactures, but on the whole are one of the most barbarous races of Asia, and the efforts of the Russian government to gather them into towns and teach them the arts of civilization have met with no success. A large share of the outdoor as well as domestic labor is left to the women. The dress of the men consists of one or more loose frocks, wide trousers, colored boots, a girdle, and a conical felt hat in summer or a furred cap in winter. That of the women is nearly the same. The more wealthy wear silks, sometimes finely embroidered. Their dwellings, called *yourts*, consist of huts made of willow trellis work covered with a kind of sheeting of wool and camels' hair. Mutton, horse flesh, tea, and sour mares' milk are the principal articles of diet. The Kirgheez are the chief slave catchers of the steppes, and a brother sometimes sells his sisters into servitude in order to avoid the expense of their support. The slaves are sent to Khiva, Bokhara, and other Turkoman states. The religion of the hordes is a corrupt form of Mohammedanism.—See Atkinson's "Oriental and Western Siberia."

KIRK, EDWARD NORRIS, D.D., an American Congregational clergyman, born in New York, Aug. 14, 1802. He was graduated at the college in Princeton, N. J., in 1820, and soon afterward entered a law office in New York, where he continued for 18 months. He then became a member of the theological school at Princeton, and after 4 years of study was appointed agent of the American board of commissioners for foreign missions. In 1828 he was invited to take charge of a pulpit in Albany, N. Y., for a few months. At the expiration of this engagement a new church was organized, and he remained its pastor for 8 years. In 1837 he resigned his charge and sailed for Europe. In Paris and London he was urged to remain as a permanent pastor; but having been appointed secretary of the foreign evangelical

society, he returned in 1839. His new office required him to present to American Protestants the claim of Catholic countries upon their missionary zeal. In the summer of 1842 he accepted a call to become the pastor of a new Congregational church in Boston. The edifice known as the Mount Vernon church was completed early in 1844, and there Dr. Kirk still continues to preach. In 1846 he visited Europe again, and 10 years later he went abroad a third time at the request of the American and foreign Christian union, to inaugurate a regular system of religious worship for American Protestants in Paris. This commission he fulfilled by securing the erection of the American chapel. After a hasty visit to Palestine he returned to his home in Boston. Dr. Kirk has published two or three volumes of sermons, and, aside from his duties as a preacher and pastor, he is engaged in various literary and benevolent enterprises.

KIRKBRIDE, THOMAS S., M.D., an American physician, born near Morrisville, Bucks co., Penn., July 31, 1809. His ancestors were members of the society of Friends (to which he also belongs), and came to America with William Penn. He received the degree of M.D. from the university of Pennsylvania in March, 1832, and was appointed resident physician of the Friends' lunatic asylum at Frankford, Penn. A year later he was elected resident physician of the Pennsylvania hospital, in which he continued two years, when he began general practice in Philadelphia. In Oct. 1840, he was elected superintendent of the Pennsylvania hospital for the insane, a new institution opened in January following. He has published "Rules and Regulations of the Pennsylvania Hospital for the Insane" (1850), which has been a text book and guide in the regulations of new hospitals; and a work "On the Construction, Organization, and General Management of Hospitals for the Insane" (1854). He has also been a frequent contributor to the "American Journal of Medical Sciences," and the "American Journal of Insanity." In 1858 he proposed the erection of a new hospital, and the separation of the sexes in two distinct buildings. To carry out his plan he raised \$350,000 among his friends in Philadelphia and vicinity, and the new hospital, which is devoted to male patients, the old one being occupied by females, is now completed and paid for.

KIRKCALDY, a parliamentary burgh and seaport of Scotland, in the county of Fife, 12 m. N. from Edinburgh, on the N. shore of the frith of Forth; pop. in 1851, 10,475. It extends E. and W. along the shore for nearly 2 m. The most important manufacture is linen, which gives employment to nearly 5,000 spindles and 7 bleach fields, and amounts in annual value to about £200,000. Several free schools have been founded in the towns of this part of Fifeshire through the munificence of Mr. Robert Philp, a merchant of Kirkcaldy, who died in 1829, and left over £70,000 for this purpose. The burgh unites with Burntisland, King-

horn, and Dysart in returning one member to parliament.

KIRKCUDBRIGHT, a S. W. co. of Scotland, bordering on Solway frith, which separates it from the English co. of Cumberland; area, 954 sq. m.; pop. in 1851, 43,121. With the co. of Wigtown, which adjoins it on the W., and part of Ayr and Lanark, it forms the district of Galloway. Most of the surface is hilly, and the N. W. part is mountainous; there are also several high peaks in the S. The principal summits are Blacklurg in the N. (2,890 feet high), Cairnsmoor in the S. W. (2,597), and Criffel in the S. E. (1,831). The principal rivers are the Dee, Fleet, Ken, and Urr. Small lakes are numerous. About $\frac{1}{4}$ of the soil is capable of cultivation, and when properly manured is very fertile. Cattle of the famous Galloway breed are largely exported. The small Galloway horses were formerly reared here, but have been almost wholly replaced by a larger breed. The county is noted for excellent honey. Kirkcudbright is commonly called a stewartry instead of a shire, and has an officer termed a steward, whose duties correspond to those of a sheriff in other counties. It sends one member to parliament.

KIRKLAND, CAROLINE MATILDA (STANSBURY), an American authoress, born in the city of New York. After the death of her father, who was a bookseller and publisher in New York, the family removed to Geneva, N. Y., where Miss Stansbury was married to Prof. William Kirkland of Hamilton college, who subsequently established a seminary in Goshen, on Seneca lake. A few years later he emigrated with his family to Michigan, whence after a residence of $2\frac{1}{2}$ years they removed in 1843 to New York, where Mrs. Kirkland has for the most part since resided. Previous to this she had published "A New Home—Who'll follow?" (Boston, 1839), a record of her own experiences of western life, and the substance of which had originally appeared in private letters; and "Forest Life" (1842). These, as well as her next work, "Western Clearings" (1846), appeared under the assumed name of "Mrs. Mary Clavers." Upon settling in New York she undertook the education of a number of young ladies, whom she received into her house; and in 1847, after the death of her husband, she resumed her literary labors by assuming the editorship of the "Union Magazine," with which she remained connected for 18 months. In 1848 she visited Europe, and on her return published "Holidays Abroad, or Europe from the West" (2 vols. 12mo., 1849). Among her other works are: "The Evening Book, or Fireside Talk on Morals and Manners, with Sketches of Western Life" (1852); "A Book for the Home Circle" (1853); the letterpress to "The Book of Home Beauty," a volume containing portraits of 12 American ladies; and "Personal Memoirs of George Washington" (12mo., illustrated, 1858). She has also published "An Essay on the Life and Writings of Spenser," prefixed to the first book of the "Faery Queen" (1846).

KIRKLAND, JOHN THORNTON, D.D., LL.D., an American clergyman, president of Harvard college, born at Little Falls, N. Y., in 1770, died in Boston, April 26, 1840. He was the son of Samuel Kirkland, a famous missionary among the Indians, was graduated at Harvard college in 1789, and was ordained pastor of the Congregational church in Summer street, Boston, in 1794. There he remained until he was elected president of Harvard college in 1810. He held this office until he was enfeebled by a severe attack of paralysis, when he resigned it, in 1828. He was averse to literary effort, nor was he a man of profound learning; and although a writer of great and acknowledged excellence, he could never be induced to undertake the labor necessary for an extensive work. At various times, however, he published a number of occasional pamphlets, and some biographies. Of these, his life of his intimate friend Fisher Ames (1809) was perhaps the most valuable. He exerted a very great influence during his life, by the force of his intellect and character. He impressed himself strongly upon all with whom he came in contact; and during his presidency the college flourished, both in its internal condition and in its external relations. The characteristic which made him one of the most conspicuous and influential persons of his day in a large circle of society, was the union of extraordinary intellectual force and faculty with the most simple and unassuming manners, and a warm, affectionate, universal, and unflinching kindness. He saved nothing from an abundant income, and gave more than he spent. It was perhaps his fault that, as president of the college, he had no system and few rules. For himself he did not need them; and they might have hampered a sagacity which was abundantly able to meet every exigency as it arose. He left no work which can give an adequate impression of his extraordinary abilities. His fame, which now rests mainly on memory, will soon have no other foundation than tradition.

KIRSCHWASSER (Ger. *Kirsche*, cherry, and *Wasser*, water), an alcoholic liquor distilled from the fermented mash of small and sweet black cherries. In the ordinary rude way of preparing it, it is a rank liquor containing hydrocyanic acid derived from the cherry stones. A superior kind is made in the Black Forest from fruit more carefully selected and treated.

KIRWAN, RICHARD, an Irish chemist and naturalist, born in the county of Galway about the middle of the 18th century, died in Dublin in 1812. He was educated at Trinity college, and at the Jesuits' college of St. Omer in France. In 1779 he went to England, and settled near London, where he devoted himself to the study of chemistry and geology. Having been admitted a member of the royal society, he read several valuable papers before that body, for which he was awarded the Copley medal in 1781. Returning to Ireland in 1789, he was chosen president of the royal Irish academy, and of the Dublin society and afterward be-

came a member of the principal learned societies of Europe. He was a frequent contributor to the "Transactions" of the various scientific societies of Dublin and London, and wrote several independent works, the most important of which are his "Essay on Phlogiston and the Composition of Acids," in which he labors to reconcile the chemistry of the alchemists with that of modern times; his "Elements of Mineralogy;" and his "Essay on the Analysis of Mineral Waters."

KISFALUDY, KÁROLY, a Hungarian dramatist, born in Tété, in the county of Raab, Feb. 6, 1788, died in Pesth, Nov. 21, 1880. At an early age he entered the Austrian army, served in Italy and in the campaign of 1809 in Germany, but quitted the service in the following year in order to marry. He failed, however, in this purpose, and repaired in grief to Vienna, where he turned to profit his proficiency in painting, while zealously devoting himself to the study of modern literature. Having returned to his native country, he suddenly rose in 1819 to immense popularity by a series of national dramas and comedies written in rapid succession for the Hungarian stage in Pesth, and received with patriotic enthusiasm. Among these were: *A tatárok Magyarországon* ("The Tartars in Hungary"), *Zách Klára* ("Clara Zách"), *A kőrök* ("The Suitors"), and *A pártütők* ("The Rebels"). These were followed by a number of more elaborate works, including an excellent comedy, *Mátyás déák* ("The Student Matthias"), and various other contributions, in verse and prose, to the literature of his country. Regarded as the father of the national drama, he was chiefly admired for his humorous delineations of popular Hungarian peculiarities. The *Kisfaludy Társaság*, a useful literary society, was founded to commemorate his name.—SÁNDOR, elder brother of the preceding, born in Sümeg, Sept. 22, 1772, died there, Oct. 28, 1844. He studied at Raab and Presburg, was an enthusiastic spectator at the memorable diet of 1791 held in the latter city, entered the Austrian army in 1793, served in the wars of Italy, and, on the surrender of the citadel of Milan to the French, was sent as prisoner to Vauluse. Here he was inspired by the remembrance of Petrarch and Laura to sing his own love, at that time unhappy, for the beautiful Rosalia Szegedy, in short songs, which he enlarged after his exchange. He was then sent to a regiment in southern Germany, in which he was the only Hungarian. He subsequently served in the campaign of Switzerland, and fought in the battle of Zürich (1799). In 1800 he returned to Hungary, married his Rosalia, and settled on his paternal estate, where he remained till his death, engaged in agricultural pursuits, especially the cultivation of the vine, but for about 25 years also continuing to write poetry. Of his numerous works, which include some historical and other dramas, only the lyrical poems and ballads (*Régék*) belong to the classical productions of Hungarian poetry. The former, under the title of *Hímfy szerelmei* ("The Love

of Himfy"), in 2 parts, *Kesergő szerelme* and *Boldog szerelme* ("Unhappy and Happy Love"), were received on their appearance at the beginning of this century with an unbounded admiration, which in part is attributable to their intrinsic merits, but in part also to the ardor for national literary regeneration, which at that period absorbed the Hungarian public. Some of Kisfaludy's poems have been translated into English by John Bowring. The complete works of both brothers have been edited by Schedel (Toldy).

KISHENEV, a town of European Russia, capital of the government of Bessarabia, situated on the Buik, a tributary of the Dniester, 49 m. N. W. from Odessa; lat. 47° 8' N., long. 28° 50' E.; pop. 43,000. It contains several churches, an ecclesiastical college, gymnasium, and library, and manufactories of wool, leather, and soap.

KISS, August, a German sculptor, born in Plesse, Prussian Silesia, Oct. 11, 1802. He received his early education in Gleiwitz, and at the age of 20 became a pupil of Rauch at the academy of Berlin. His earliest productions were bas-reliefs for churches and other public buildings, groups of nymphs and tritons for fountains or gardens, and the ordinary classical subjects, executed partly from Rauch's designs and partly from his own. The group of the "Amazon and the Tiger," of which the model was finished in 1839, first brought him into notice, and so great was the admiration which it attracted that a public subscription was raised to have it cast in bronze. A zinc cast, bronzed after the original, which was in the great exhibition of London in 1851, and in that of New York in 1853, has made the work familiar to the public in England and America. His colossal group of "St. George and the Dragon," exhibited in the French exposition of 1855, was subjected to rather severe criticism. Among his other principal works are a statue of Frederic the Great at Breslau, two of Frederic William III., and "St. Michael overthrowing the Dragon." He is a member of the academy of arts in Berlin, and professor of sculpture in the royal academy. One of his most recent works is a colossal tiger's head in bronze, killing a serpent, so placed that the animal appears to be emerging from a cavern on the roadside near Carlsbad.

KISSELEFF, PAVL, a Russian statesman, born in Moscow in 1788. He entered the army in 1806, served in the campaign of 1812-'13, and attracted the attention of the emperor Alexander, whose adjutant he became in 1814, and whom he accompanied to the congress of Vienna. In 1817 he became lieutenant-general, and in 1819 commander of the general staff. After the termination of the Turkish war of 1828-'9, in which he had taken an active though not very conspicuous part, he was intrusted with the command of the Russian garrisons and the civil administration in Moldavia and Wallachia. In 1834 he returned to St. Petersburg with the rank of a general of infantry, and was employed in planning reforms for the better government of the crown lands. A new ministerial office

was created in 1838, devoted exclusively to that branch of administration; Kisseleff was placed at its head, and in 1839 he was made a count. He prevailed upon the emperor to establish an extensive educational system in the crown lands, and the number of schools increased from 40 with 1,500 pupils in 1838, to 2,934, attended by 150,969 boys and 19,496 girls, in 1855. Poor houses, savings and loan banks, industrial and agricultural schools, were gradually established; and the great increase of prosperity which has since taken place is owing in great part to the influence of Kisseleff. He continued to preside over the crown lands until Nov. 1856, when he was appointed ambassador in Paris, a post which he still occupies (1860). He is separated from his wife, a daughter of Count Felix Potocki, who remains enthusiastically devoted to the cause of Poland. — **NICOLAI**, brother of the preceding, born in 1800, has been in the diplomatic service of Russia for many years, chiefly in Paris, where he represented his government until the outbreak of the Crimean war (1854). Since that time he has officiated as ambassador in Rome.

KISSINGEN, a German watering place in the Bavarian circle of Lower Franconia, pleasantly situated on the Saale, 32 m. N. from Würzburg; pop. 1,600. It is walled, and has very extensive baths with 8 saline springs, much recommended for chronic diseases, gout, and complaints of the stomach. The annual number of visitors is about 4,000, and 400,000 or 500,000 bottles of the water are said to be yearly exported. In the vicinity of Kissingen are salt works, which are supplied by Artesian wells.

KISTNAH, or **KRISHNA**, a large river of S. India, which rises in the W. Ghats, at Mahabulishwar, and after a S. E. course of about 800 m. discharges its waters by many mouths into the bay of Bengal, near Masulipatam. Its principal tributaries are the Wurna, Malpurba, Gutpurba, Beemah, and Toombuddra. The Kistnah is subject to two periodical risings annually. The first and greatest is caused by the heavy rains of the S. W. monsoon, the other by those of the N. E. monsoon. The banks of this river are in general so high as to prevent the use of its waters for fertilizing purposes; but an attempt is now being made to adapt it for irrigation by means of an embankment thrown across its channel at the head of the delta. The cost of this great work is estimated at £150,000. At Boburlanka, in lat. 16° 5' N., long. 80° 56' E., it divides into two main branches, which diverge from each other in their progress to the sea, and form an extensive delta, intersected by less considerable branches. The Kistnah, on account of the rapid declivity and rocky nature of its water-way, can hardly be anywhere navigated even by small craft; it is usually crossed in large circular baskets, made of bamboo, and covered with hides. It is richer in gems than any other Indian river, diamonds, chalcodones, onyxes, &c., being frequently found in its sediment in the dry season.

KIT-CAT CLUB, a convivial association es-

tablished in London about the time of the revolution. As its leading members were mostly whigs, it quickly assumed a political character, and came to be regarded as the head-quarters of the friends of the Hanoverian succession. It was held in Shire lane, at the house of Christopher (alias Kit) Cat, who supplied its votaries with mutton pies. Addison, Steele, Walpole, Sir Godfrey Kneller, and Marlborough belonged to it. The club was dissolved about 1720. The memoirs of the celebrated members of the Kit-Cat club, illustrated with 48 portraits three quarters in length (whence the term Kit-Cat portraits) from the original paintings by Sir G. Kneller, were published in London in 1821.

KITOHINER, WILLIAM, an English physician and author, born in London about 1775, died there in 1827. He was educated at Eton. His literary works are of a very miscellaneous character. They embrace treatises on gastronomy, health, the eye, telescopes, and music, together with a collection of the "Loyal and National Songs of England." The "Cook's Oracle" is perhaps the most important of his productions.

KITE, an instrument chiefly used by boys as a toy, but also sometimes applied to objects of utility and scientific interest. It is intended to be taken up into the air by the wind to the extent of the string by which it is held, and which serves to draw it back. It consists of a light frame, sometimes of three sticks crossing each other in the centre, their ends connected by a tightly drawn cord, and the whole covered over with paper; or it is made in shape like a strained cross bow, a bow being attached to one end of a lath, and a string passing around the other extremity connecting the two ends of the bow. The kite is suspended by a string fastened to two points on the vertical piece of the frame, and to the loop thus made the end of the long twine is secured, balancing the kite near its centre of gravity. In order to hold it in proper position for the wind to act upon it to the best advantage, which is when it lies at an angle of about $54\frac{1}{2}^\circ$ with the horizon, a weight is suspended from the lower end in the form of bits of paper tied to a string; this is called the tail. As the face of the kite is presented to the breeze it mounts obliquely upward on the principle of a vessel sailing close to the wind, the string holding the one in place, as the other is prevented from falling to leeward by the resistance of the water. It was by means of the kite that Dr. Franklin in America and Romas in France raised a conductor into the clouds, and by means of the electric spark obtained determined the identity of lightning and electricity.—In the "Transactions of the Society of Arts," vol. xli., is an account of the kite contrived by Capt. Dansey for effecting a communication between a stranded ship and the shore to leeward. This kite is of linen cloth, with the loop by which it is suspended so arranged, that its upper end may be detached by a "messenger," which is a light disk with a hole in the centre slipped upon the lower end of the line. This runs up the

line to the kite, and freeing the upper end of the loop, the kite turns over and pitches straight down head first. A person to leeward may replace the loop and send the kite up again with a messenger presenting little surface to the wind arranged so as to run down the line to the persons holding the lower end. The kite Capt. Dansey used in his experiments was made with $8\frac{1}{4}$ lbs. weight of linen; the spars, one of which was armed with iron spikes in the head for the purpose of mooring it in the ground as it came down, weighed $6\frac{1}{2}$ lbs., and the tail, measuring 5 times the length of the kite, was made with 8 lbs. of rope and 14 lbs. of elm plank. It ran out 1,100 yards of line $\frac{1}{4}$ inch in circumference, and at another time 860 yards of $1\frac{1}{4}$ inch rope, weighing 60 lbs. Capt. Dansey received a gold medal from the society for his invention.

KITE, the common name of many birds of prey belonging to the sub-family *milvina*, characterized by moderate size, slender figure, short and weak bill with hooked and acute tip and sinuated margins, nostrils basal and lateral, wings long and pointed, tail long, tarsi slender and rather short, toes moderate, broad, and padded. Many of the genera need only be mentioned here; among them, according to Gray, are *basa* (Hodg.), from India, its archipelago, and Australia; *avioidea* (Swains.), from W. Africa; *pernis* (Cuv.) including the old world honey buzzards (see BUZZARD), of which *P. apivorus* (Selb.) is a well known European representative; *cymindis* (Cuv.) and *gampsonys* (Vigors), from tropical America.—Among the American kites belongs the genus *naucloerus* (Vigors), with long pointed wings and deeply forked tail. The swallow-tailed kite (*N. furcatus*, Linn.) is about 2 feet long, with an extent of wings of $4\frac{1}{2}$ feet; the back, wings, and tail are black, with a metallic lustre, purple on the wing coverts; head, neck, under wing coverts, base of secondaries, and lower parts white; tarsi and toes greenish blue; bill horn color. This species is found in the southern Atlantic states, and in the interior from Texas to Wisconsin; it is accidental in Europe. The flight of this bird is exceedingly graceful and rapid. Flocks of 15 or 20 are often seen; they arrive in the gulf states early in April, probably from Mexico and Central America, and disappear in September; they are shy, on the wing during most of the day, and at night resting on the highest trees; they feed during flight, and in calm weather soar to an immense height in pursuit of large insects; the gait on the ground is very awkward. The nest resembles that of the crow, and is usually placed in the top of a tall tree; the eggs, 4 to 6, are greenish white, with irregular brown blotches at the larger end.—In the genus *elanus* (Sav.), found in the warmer parts of the globe, belongs the white-tailed or black-shouldered kite (*E. leucurus*, Vieill.); the length is about 16 inches and the extent of wings about $8\frac{1}{2}$ feet, in the female; the wings are long and pointed, but the tail is moderate and emarginated; the head, tail, and under parts are white; above light

ashy, with an oblong black patch on the shoulders formed by the lesser wing coverts; inferior wing coverts white, with a smaller black patch; the middle tail feathers are light ashy; bill dark; tarsi and toes yellow. It is found in the southern and western states, and in South America; rarely seen north of South Carolina on the Atlantic coast, it occurs considerably further north on the Pacific. It flies very high, and is not easily approached in its favorite marshy retreats; it feeds on small birds and large insects, especially orthoptera, and is very bold in their pursuit. The Mississippi kite (*ictinia Mississipiensis*, Wilson), of the southern states, Texas, and New Mexico, a smaller species, has been described under BUZZARD. A species of the genus *rostrhamus* (Lesson), generally South American, has been found breeding in Florida; this is the black kite (*R. sociabilis*, Vieill.), remarkable for its slender and much hooked bill; it is about 16 inches long, of a black color, with base of tail and its under coverts white; the young birds are more brownish and yellow; it preys principally on reptiles, and perches on the loftiest trees.—Of the kites of the old world, the best known is the common *milvus regalis* (Bris.) of Europe, of a reddish brown color above, with blackish longitudinal streaks, and the lower parts light brownish red with narrower streaks; the female is about 26 inches long, with an extent of wings of 5½ feet. The flight is remarkably powerful and elegant; the food consists of small quadrupeds, birds, reptiles, insects, carrion, and even fish. It is found in Europe, N. Africa, and W. Asia, in almost all regions, both wild and inhabited; it sometimes steals a young chicken when the hen is off her guard, but dares not make a direct attack in her presence. It is said that in the time of Henry VIII. the streets of London were infested by a great number of kites, which fed upon the offal therein deposited; they became very tame, and their services as scavengers were so highly esteemed that it was forbidden by law to kill them. The black kite (*M. niger*, Bris.), of S. Europe and N. Africa, is a smaller species, and performs the office of scavenger in many of the towns of N. E. Africa; it is very bold, attacking chickens and ducks even in the presence of their owners, seeming to have no fear of man. The Govinda kite (*M. cheela*, Lath.) is very numerous in Calcutta, feeding upon the garbage cast into the streets, in the most crowded thoroughfares, seizing its food on the wing.

KITTANNING, the capital of Armstrong co., Penn.; pop. in 1859, about 2,000. It is situated on a broad alluvial plain on the left bank of the Alleghany river, on the site of an old Indian village of the same name, which was taken and burned Aug. 8, 1757, by Col. (afterward Gen.) Armstrong. The river is crossed by a bridge of 916 feet span. In the hills skirting and opposite the town are found, nearly horizontal, one stratum of cannel and 5 of bituminous coal, and 2 each of iron ore and limestone; also pure fire clay and good building stone. The

village has a large rolling mill, 8 founderies, a steam flouring mill, large iron works, 20 blast furnaces, 2 coal oil factories, several salt wells, a bank, town hall, academy, and 6 churches. It is the seat of the university of Kittanning.

KITTIWAKE. See GULL.

KITTO, JOHN, D.D., an English biblical scholar, born in Plymouth, Dec. 4, 1804, died in Cannstadt, Germany, Nov. 25, 1854. He was the son of a mason, and for some time worked at that trade; but having received a fall which disabled him and destroyed his hearing for life, he was compelled to enter the workhouse of Plymouth, whence he was apprenticed to a shoemaker. In consequence of the cruelty of his master his indentures were cancelled, and he went back to the workhouse. It was now discovered that he had made considerable proficiency in study, and a fund was raised to assist him. He soon after published by subscription a small volume of miscellaneous writings. Next he went to Exeter to learn the profession of a dentist; and thence to London, where he was employed in the printing office of the church missionary society. Two years later he went to the society's establishment at Malta, and subsequently he visited Bagdad as a private tutor to the sons of a former friend and patron. There he resided 8 years, and acquired an intimate acquaintance with oriental life. Soon after returning to London, he was introduced to Mr. Charles Knight, the publisher, who engaged him first as assistant in preparing serials for the "Library of Useful Knowledge," and afterward in the compilation of other works. His connection with Mr. Knight continued while his health remained unbroken; but having been seized with paralysis, he retired in 1854 to Cannstadt, where he died. In 1844 he received the degree of D.D. from the university of Gießen; and in consideration of his services to the cause of religion and literature, the British government granted him in 1850 an annuity of £100. His principal works are: an edition of the Scriptures called the "Pictorial Bible" (1835-'8; 2d ed. enlarged, 4 vols. royal 8vo., 1847-'9); "Uncle Oliver's Travels" (2 vols. 12mo., 1838); "Pictorial History of Palestine" (3 vols. royal 8vo., 1839-'40); "Cyclopædia of Biblical Literature" (2 vols. 8vo., 1845-'50); "The Lost Senses: Deafness and Blindness" (12mo., 1845); "Physical Geography of the Holy Land" (2 vols. 18mo., 1848); "Daily Bible Illustrations" (8 vols. small 8vo., 1849-'53). In 1848 he established the "Journal of Sacred Literature," which he edited till 1858. His memoirs have been written by J. E. Ryland (Edinburgh, 1858).

KIWI-KIWI, the New Zealand name of the *aptoryx*, a struthious bird, of the singular family which contains the living cassowary, emu, mooruk, and ostrich, and the extinct *aptornis*, *dinornis*, and dodo. The beak resembles that of a long-billed wader, being slender, with the base covered with a bony cere, the upper mandible the longer and containing the openings of the nostrils near the tip; the base of the bill

is furnished with long, slender black bristles intermixed with the feathers, and projecting in all directions; the wings are 2 small crooked appendages, extending about $1\frac{1}{4}$ inches from the sides of the chest, and terminated by a curved, obtuse, horny claw 8 lines long, having 9 quill plumes differing but little from those of the body; the tail is not apparent; the tarsi are as long as the middle toe, covered with variously sized scales, and very robust as in gallinaceous birds; there are 3 anterior toes, free and covered with scales, and a very short hind toe, all armed with strong and rather sharp claws. The plumage is loose as in other terrestrial birds which have no power of flight, resembling that of the emu in size, structure, and color, but wanting the accessory plumelet; the skin is very tough, a line thick along the back, and there is a large amount of fat between it and the muscles, especially on the back, abdomen, and root of neck; the head is broad and but slightly depressed. The genus *apteryx* was established by Shaw in 1812 from a stuffed skin, and was at that time supposed to have become extinct like the dodo; but in 1838-'8 other specimens arrived, which are described by Mr. Yarrell in vol. i. of the "Transactions of the Zoological Society of London," and by Prof. Owen in vols. ii. and iii. of the same work. Three species are described. *A. australis* (Shaw) is about 80 inches long from tip of bill to end of toes, 19 inches to end of coccyx, and weighs about $8\frac{1}{2}$ lbs.; the bill varies in length from $4\frac{1}{2}$ to $6\frac{1}{2}$ inches, the longest belonging to the females, another anomaly in this bird; the bill is 1 inch wide at the gape and 7 lines high; the color is grayish brown, darkest on the back. *A. Mantelli* (Bartlett), described in 1850, is about 28 inches long, with a bill of 4 inches; the color is dark rufous brown, darkest on the back. *A. Oweni* (Gould), described in 1847, is the largest species, and is said to be about 3 feet high; the upper parts are transversely barred with blackish brown and fulvous, and the plumage is exceedingly dense and hair-like, resembling more the covering of a mammal than a bird; the bill is an inch shorter, more slender, and more curved; the wings are exceedingly rudimentary.—In the "Proceedings of the Zoological Society" for Jan. 1852, Prof. Owen describes an egg of the apteryx, which was $4\frac{1}{2}$ inches long and $8\frac{1}{2}$ inches wide, of a long oval form, and of a dirty grayish white color in part due to a decomposed chick within, and the shell $\frac{1}{4}$ of a line thick; the egg of the *ptyornis*, about 18 inches long, of a capacity of $10\frac{1}{4}$ quarts, 6 times that of the ostrich or 148 times that of a hen's egg, is, relatively to the size of the bird (which was about twice that of the largest ostrich), smaller than that of the apteryx; the large size of the unhatched young, and the possession within the egg of the remarkable characters of feet, wings, and beak of the adult, show that the young apteryx must be able to provide for itself very soon if not immediately after leaving the egg. The bill of the apteryx is moderately strong, as

the bird is said to be in the habit of resting the head upon it against the ground, and to thrust it into the soil in search of food; it is struthious in structure, and grallatorial only in its length and slenderness. The tongue is short, but larger than in other struthious birds; the oesophagus narrow, the proventriculus and stomach small, and the latter less muscular than in the vegetable-feeding *struthionida*; the intestines are long, and the caeca moderate. There is no trace of extension of air cells, as in birds of flight, into the interspaces of the abdominal viscera, and the diaphragm is well developed and pierced only for the oesophagus and vessels; the lungs are bird-like, and also the organs of circulation, except in the more membranous character of the right auriculo-ventricular valve; the larynx and trachea are struthious. The bones are not perforated for the admission of air, but are tough and compact like those of lizards; the skull is smooth and elevated; the orbits small, and the ethmoid bone very large, corresponding with the feeble vision and acute smell of a bird of nocturnal habits. The spine is strong, especially in the neck, which has 15 vertebrae; the sternum small and without keel, the clavicles absent, and the bones of the wing atrophied; the femur and metatarsus are longer than in others of the family, more as in gallinaceous birds; the ribs are broad, with free bony appendages; the brain cavity is larger than in the diurnal *struthionida*. The thick skin is provided with a distinct and extensive system of cutaneous muscles, to shake off loose earth from the plumage while burrowing for its retreat or nest, taking origin from the bones. The muscles of the back corresponding to the 2d layer in man are more distinct and of greater relative size than in any other bird; the pectorals are feebly developed in accordance with the rudimentary wings; the muscles of the legs are powerful, especially the flexors and extensors, for scratching, running, and burrowing. These birds are found in New Zealand, particularly in regions covered with extensive and thick beds of ferns, in which they hide when alarmed; they are nocturnal in their habits, feeding upon snails, insects, worms, and the large soft-bodied lepidopterous larvae; they run swiftly, and defend themselves vigorously with the feet; the nest is made either at the base of a hollow tree, or in deep holes which they excavate in the ground. The natives pursue them for their skins, which from their strength are highly valued for making dresses.—Though a living specimen has been seen at the zoological gardens in London, the apteryx is probably nearly extinct; the *ptyornis* is supposed to be extinct, though some believe that it may yet exist in the unexplored regions of Madagascar; the dodo has been lost within the memory of man; and the *dinornis* doubtless antedated the historic period.

KLAGENFURTH, a town of Austria, capital of the duchy of Carinthia, 40 m. N. from Laybach; pop. 14,200. It has manufactories of woollens, silks, and muslins. It is supposed to

occupy nearly the site of the Roman Tiburnia, but it first became a place of interest and importance in the 16th century, when it was fortified by the emperor Maximilian I. Görgey, the Hungarian general, has been confined at Klagenfurt since his surrender in 1849.

KLAMATH, a N. W. co. of Cal., bordering on the Pacific, bounded N. by Klamath river, and traversed by Trinity river; area, about 8,000 sq. m.; pop. in 1858 estimated at 4,480. The surface is mostly mountainous, and in some places is covered with dense forests of redwood, cedar, spruce, and fir. The valleys are fertile, and the hilly districts afford good pasturage. Gold mining is prosecuted to a large extent near Klamath, Trinity, and Salmon rivers, at Gold Bluff, and in the vicinity of the beach. The agricultural products in 1858 were 37,500 bushels of wheat, 40,000 of oats, and 500 of barley. Capital, Orleans Bar. The Klamath Indian reserve, 25,000 acres in extent, is situated partly in this and partly in Del Norte co.

KLAMATH, or **TLAMATH**, a river of California. It rises in Klamath lake in the S. part of Oregon, and flows S. across the California frontier, just before reaching which it receives the outlet of Rhett or Lower Klamath lake. Its course thence is W. N. W., and afterward S. W., until it is joined by Trinity river on its left bank, when it makes a sharp bend to the N. W., and preserves that direction until it falls into the Pacific about lat. 41° 30' N. There is a bar at its mouth which can be crossed at high water by ships of the line, and at low water by small boats only. Its waters abound in salmon and other fish, and there are valuable gold diggings on its banks. Its length is about 250 m. The town of Klamath is situated on its right bank, a few miles above its mouth.

KLAPKA, **GRÖRGEY**, a Hungarian general, born in Temesvár, April 7, 1820. He studied in Szegedin, Karán-Sebes, and at the school of artillery in Vienna, entered the Hungarian noble life guards of the emperor Ferdinand, and in 1847 was appointed officer in a border regiment. He soon after quitted the service in order to travel. At the outbreak of the revolution in 1848 he offered his services to the new government of his country, and was made captain and sent to the seat of war in the south of Hungary. Recalled in September, he was engaged in some important works of fortification, but soon after returned to the army of the south, where he acted as chief of the staff of Gen. Kiss. At the beginning of 1849 he was enabled to render more essential services to the cause of Hungary, being placed at the head of the army of the north, which under Gen. Mészáros had been defeated by Count Schlick in the neighborhood of Kaschau. He rallied and organized the scattered troops, and took up a position near the Theiss, and not only effectually defended the line of that river, which covered Debreczin, the new seat of the revolutionary government, but also gained decisive advantages over the Austrians in the engagements of Tarczal (Jan. 22),

Keresztur-on-the-Bodrog (23), and Tokaj (31). Görgey simultaneously approaching from the Zips, Klapka pursued his retreating enemy, who evacuated Kaschau, and saved his army by a skilful march. The two enemies met again in the battle of Kápolna (Feb. 26, 27), in which Klapka commanded the right wing of the Hungarian army under Dembinski. When the latter army retreated behind the Theiss, he was conspicuous among the officers who by their declarations obliged the government to dismiss the Polish commander-in-chief; and when Görgey, the principal cause of the change, finally became his successor, Klapka, who had been promoted to the rank of general, received the command of his 1st corps, partaking in the 5 great battles of the April campaign (at Bicsake, Izsaszeg, Waitzen, Nagy-Sarló, and Ács), all of which ended in the defeat of the Austrians. In the following month he had the management of the war department in the newly created ministry; and when Görgey, after the conquest of Buda, resumed the offensive in June, he took command of the fortress of Comorn and of the troops on the right bank of the Danube, and in vain tried to dissuade Görgey from his disastrous plan of operations on the line of the Waag. After several bloody battles both were compelled to retreat; the position at Raab was subsequently lost, and after various engagements around Comorn, Görgey retired toward the Theiss, leaving Klapka with an army of about 18,000 in the fortress. His sortie of Aug. 8, which was one of the most signal deeds of the revolutionary war, almost annihilated the Austrian army of observation before Comorn. He advanced to Raab, and was preparing an invasion of the enemy's territory when the news from the Theiss suddenly destroyed all hope of further advantages. He retired to Comorn, which, after all the other troops in the country had laid down their arms, he surrendered on Oct. 4, on conditions favorable to the garrison, though afterward not strictly observed. Leaving Hungary, he was received in Germany with demonstrations of popular sympathy, and lived for some time in Hamburg, whence he repaired to London, Paris, and afterward to Switzerland. On the outbreak of the war against Russia he went to Constantinople, and after his return became a citizen of Geneva in 1855. In 1859 he was intrusted by the Sardinian government with the organization of a Hungarian legion, and several thousands of volunteers had already been enlisted when the peace of Villafranca suddenly put an end to his new military activity. Klapka is the author of "Memoirs of the War of Independence in Hungary" (Leipzig, 1850; English translation, 2 vols., London, 1850), in which he treats chiefly of the operations around Comorn, and of his relations to Kossuth and Görgey; of a history of "The National War in Hungary and Transylvania" (2 vols., Leipzig, 1851); of "The War in the East," &c. (Geneva, 1855; English ed., London, 1855), and various minor historical writings.

KLAPROTH, MARTIN HEINRICH, a German chemist, born in Wernigerode, Dec. 1, 1743, died in Berlin, Jan. 1, 1817. After being engaged for some years in Berlin as a practical chemist, he became an apothecary in 1780, and in 1787 was appointed professor of chemistry in the school of artillery. He was among the first who labored industriously in the classification of minerals by means of scientific analysis. He first found zirconium in a mineral from Ceylon, and his discovery of titanium, uranium, and tellurium will always connect his name with those metals. He first proved that potassium was found in volcanic products and in white garnets, and made known molybdate of lead and sulphate of strontium.—**HEINRICH JULIUS VON**, a German traveller and orientalist, son of the preceding, born in Berlin, Oct. 11, 1783, died in Paris, Aug. 27, 1835. Until the age of 15 he applied himself to chemistry and natural science; but at that time the perusal of books of travel in the East, written by philologists and scholars, determined him to devote himself to oriental languages. After two years spent at the university of Halle, he went in 1802 to Dresden, where he devoted 8 months to the oriental MSS. of its library. Here he began the publication of the *Asiatisches Magazin*. The Russian government having determined in 1805 to send an embassy to Peking, Klaproth, who had already learned the Mantchu, joined the expedition. He did not reach Peking, but remained 6 months at Irkutsk, studying several Asiatic tongues. From this place he explored alone, in 1806, a wide range of the northern Chinese frontier, returning to St. Petersburg in 1807, where he was received with great honor, and again sent on a mission to the then almost unknown mountain regions of the Caucasus. The results of his researches were so little favorable to the hope that Russia could readily acquire dominion over the country, that it was with the greatest difficulty that Klaproth obtained in 1810 permission to publish an account of his expedition. The annoyances which he experienced on this occasion determined him to quit Russia. Two years later (1812) he obtained, but not without great difficulty, leave to depart. In 1814 he visited Italy, and finally came with the allied army to Paris, where he passed the remainder of his life. His principal works are: *Reise in den Kaukasus*, &c. (3 vols., Berlin, 1812-'14); *Supplément au dictionnaire Chinois-Latin du Père Barle de Glemona* (Paris, 1819); *Asia Polyglotta, ou classification des peuples de l'Asie*, &c. (1828-'9); *Tableaux historiques de l'Asie*, &c. (1824-'6); *Mémoires relatifs à l'Asie* (8 vols., 1824-'8); *Tableau historique, &c., du Caucase* (1827); *Vocabulaire Latin, Persan et Coréen* (1828); *Examen critique des travaux de M. Champollion jeune* (1832). He left in MS. an extensive work, *Nouveau Mithridate, ou classification systématique de toutes les langues connues*, which contains a grammatical sketch of most known languages, with a polyglot vocabulary of the

five grand divisions of the world. An English translation by F. Shoberl of his "Travels in the Caucasus and Georgia, performed in 1807-'8," appeared in London in 1814.

KLAUSENBURG (Hun. *Kolozvár*), the capital of the Austrian province of Transylvania, situated on the Szamos near its source; pop. 25,500, chiefly Magyars. It has a fortified but partly decayed castle, and consists of two towns, the old and new, and 6 suburbs. It has Roman Catholic, Greek Catholic, and Protestant churches, a Roman Catholic gymnasium and seminary, a Unitarian college, a Greek Catholic school, a Franciscan convent, and several benevolent institutions. Toward the close of 1859 a national museum was founded there. Klausenburg contains the only Unitarian college on the continent of Europe, attended in 1860 by about 250 students. It is an important centre of the trade between Transylvania and the neighboring counties of Hungary. It has also manufactories of porcelain. It was a colony of the Romans, and ancient coins and relics are frequently found in the vicinity. Matthias Corvinus was born there, and it has often figured in Hungarian history. During the late Hungarian revolution it was taken by Gen. Bem, Dec. 25, 1848.

KLAUSTHAL. See **CLÁUSTHAL**.

KLÉBER, JEAN BAPTISTE, a French soldier, born in Strasbourg, March 6, 1753, assassinated in Cairo, Egypt, June 14, 1800. His father, a mason, died when he was a child, and he was educated by a country clergyman, his relative, who sent him to Paris to study architecture under Chalgrin; but at the end of two years he returned to his native city. Two foreign gentlemen, whom he had protected from insult at a café, took him to Germany and placed him in the military school at Munich. The Austrian general Kaunitz, being impressed with his proficiency, appointed him sub-lieutenant in his own regiment, and for several years Kléber served with the imperial troops. He resigned in 1783, and returning to Alsace, succeeded in obtaining the office of inspector of public buildings in the town of Belfort. In 1792 he enlisted as a private in the regiment of Haut-Rhin. He soon became adjutant, distinguished himself during the siege of Mentz, and was raised to the rank of adjutant-general. Notwithstanding this, he was put under arrest on the surrender of that city, and taken to Paris, where he fully vindicated his conduct and that of the whole garrison. He was then made a brigadier-general, sent to La Vendée with the first division of the "army of Mentz," fought heroically against the royalists, defeated them at Chollet, Oct. 17, 1793, and in concert with Marceau gained a victory at Savennay, Dec. 23. The indignation he then manifested at the cruelties ordered by the commissioners of the convention, caused him to be cashiered; but he was recalled to service in 1794, raised to the rank of general of division, and sent to the army of the north under Jourdan. He shared in the victory at Fleurus, June

26, 1794, and in the conquest of the Austrian Netherlands. In 1795 he blockaded Mentz, and directed several bold operations on the banks of the Rhine. In the following campaign he defeated the Austrian division under the prince of Würtemberg at the crossing of the Sieg, June 1, 1796, and nearly destroyed the same, 4 days later, at the battle of Altenkirchen. Nevertheless, he was dismissed and retired to Chaillot, in the vicinity of Paris, where he devoted his leisure to preparing his *Mémoires*. In 1798 he joined Bonaparte in his expedition to Egypt, and received a wound on the head at the storming of Alexandria, where he remained in the capacity of governor. He accompanied the expedition to Syria, led the advance division, crossed the desert, took Gaza and Jaffa, won the victory of Mount Tabor, and on the raising of the siege of Acre covered the retreat of the exhausted army. When Bonaparte returned to France, he confided to Kléber the command of the army. The new commander, who never had had any confidence in the possibility of holding Egypt, listened to proposals of peace, and signed the treaty of El Arish with Sir Sidney Smith, by which the French were allowed to leave Egypt with their arms and baggage. Kléber hastened to deliver some of the fortresses he held to the Turks, but was notified by Lord Keith that the treaty had not been ratified by the English government, and that the French army must lay down their arms and give themselves up as prisoners of war. On the reception of this news, Kléber's energies were roused to the utmost; he published the letter of the English admiral in his order of the day, merely adding this sentence: "Soldiers, such a letter can be answered but by victories; be ready for battle!" He marched forward to attack the Turkish army, which was 10 times more numerous than his own, won, March 20, 1800, the brilliant victory of Heliopolis, retook Cairo and several other cities that had risen in insurrection, and found himself again the undisputed master of Egypt. He now succeeded in conciliating Murad Bey, and was about to conclude peace with the Turks, when he was murdered while walking in his garden at Cairo, by a young fanatic named Solymán. Kléber's remains were brought to Marseilles on the evacuation of Egypt by the French army, and placed in the chateau d'If. In 1818 they were removed to his native city, where they were placed under a monument on the principal square, over which a bronze statue was inaugurated, June 14, 1840.

KLEIST, EWALD CHRISTIAN VON, a German poet, born in Zeblin, Pomerania, March 3, 1715, died in Frankfort-on-the-Oder, Aug. 24, 1759. After studying at Königsberg, he entered successively the Danish and the Prussian military service, was appointed lieutenant under Prince Henry by Frederic the Great, and after distinguishing himself for valor was fatally wounded in the battle of Kunersdorf. He devoted his leisure during his campaigns to writing poetry,

chiefly of a descriptive and picturesque character, and while in garrison at Leipzig in 1757 was intimately associated with Gellert and Weisse. His finest poem is *Der Frühling* (1749). An edition of his complete works was published at Berlin in 1808 (2 vols.; 2d ed. 1825). A new edition of his collected works, revised by Julian Schmidt, appeared in Berlin in 1859.

KLEIST, HEINRICH VON, a German poet, born in Frankfort-on-the-Oder, Oct. 10, 1776, died near Potsdam, Nov. 21, 1811. After making the campaign of the Rhine against France, he studied law at Erlangen, travelled in France and Switzerland, and resided in Dresden in 1802, and subsequently in Berlin and in Königsberg. After the battle of Jena he lamented in his poems the misfortunes of his country and his own imprisonment during the French occupation of Berlin. On the declaration of war by Austria against France in 1809, he hastened full of hope toward Vienna, but heard of the conclusion of peace on his way. This and other grievous disappointments induced him two years later to commit suicide at the Heilige See, in company with a friend, the wife of a Berlin merchant. He was one of the most able of the German romantic school of poets, and is placed at their head by Gervinus, who calls him "the political Werther of his age."

KLENZE, LEO VON, a German architect, born in Hildesheim, Hanover, in 1784. He early manifested a strong predilection for architecture, which his father, thinking the unsettled condition of Germany an obstacle to the successful pursuit of this art, endeavored in vain to dissuade him from adopting as a profession. Having spent some time at the polytechnic school in Paris, and in Sicily, where he acquired a taste for Greek architecture, he established himself in Munich after the general peace, and was appointed through the crown prince, afterward King Louis, court architect. In 1816 he was commissioned to prepare the plans for the celebrated Walhalla, near Munich, which, however, was not commenced until 1830, and not inaugurated until 1842. It is modelled on the plan of the Parthenon, and is one of the most imposing structures ever erected after the antique type. Previous to the commencement of this work Klenze designed in 1820 the Glyptothek, or gallery of sculpture, the Pinakothek, or picture gallery, and other public buildings in Munich. He became the friend and adviser of his patron, the crown prince, and upon the elevation of the latter to the throne in 1825 was appointed president of the council. His works, which are found in some of the chief cities of Europe, embrace a great variety of orders or modifications of architectural orders, the Greek being the prevailing one. In the antique he has been most successful. He has published a number of essays and aphorisms on art, including a treatise, illustrated by designs, in which he endeavors to prove that the Grecian style of architecture is alone adapted to ecclesiastical structures.

KLIOPERA, WENCESLAW, a Bohemian dramatist, born in Ohlumetz about 1792, died in Prague, Sept. 15, 1859. He was one of the most fertile and gifted dramatists of Bohemia, and has often been called the Cechic Shakespeare.

KLINGER, FRIEDRICH MAXIMILIAN VON, a German poet, born in Frankfort-on-the-Main, Feb. 19, 1758, died in St. Petersburg, Feb. 25, 1831. He was educated at Giessen, began to write for the stage at Weimar and Leipsic, was sub-lieutenant in the volunteer corps of Walter in the war of the Bavarian succession, and went from Weimar to St. Petersburg in 1780, where he became colonel under Catharine, major-general and director of the corps of cadets under Paul, and in 1811 lieutenant-general under Alexander. He was in active service nearly 40 years. On German literature he has exercised a powerful influence by the vehemence of his genius. Schlosser the historian places Klinger by the side of Goethe as among the first to follow the suggestion of Lessing by emancipating the German drama from the trammels of the French school, and deriving inspiration from Shakespeare. He was the most conspicuous representative of that excited period of German literature called "storm and pressure period," which in fact took its name from one of his most extravagant dramas, entitled *Sturm und Drang* ("Storm and Pressure," 1775). Of his romances, the most esteemed are *Der Weltmann und der Dichter*, a series of dialogues designed to present the antagonism between the real and the ideal worlds, and *Faust's Leben, Thaten und Höllenfahrt* (St. Petersburg, 1791). An edition of his select works was published at Stuttgart (12 vols., 1842).

KLIPSPRINGER (Dutch, cliff springer), a S. African field antelope, the *oreotragus saltatrix* (Bodd). The male is about 8½ feet long, and 22 inches high at the shoulder; the head is short and broad, with a tapering nose and large bald muffle; the horns, which exist only in the males, are about 5 inches long, slender, vertical, nearly parallel, acute, with a few rings at the base; the tear bag is arched and transverse; the ears are pointed, nearly as high as the horns; the eyes are full, lively, and dark hazel; the hoofs are small, square, and compressed, with large and blunt false hoofs; the tail very short. The body and limbs are robust; the hair is thick, wavy, erect, and quill-like, forming a natural pad to protect the body from bruises and falls in their dangerous retreats; the mammae are two. The color of the hair is grayish, brown at the end, with a short yellow tip, giving the general hue as a brown grizzled with yellow; the lower parts are whitish, and the edge of the ears and feet above the hoofs black; the color varies in intensity according to season. The females resemble the males, except in the absence of horns. These animals live in pairs. They possess the climbing propensities and sure-footedness of the goats, living among rocks inaccessible to man and dogs, and springing like the chamois from one pre-

cipice to another with great agility and rarely failing accuracy. They used to be abundant in the colony of the Cape of Good Hope, but have been so hunted that they are now driven to the mountainous regions of the interior; their venison is considered the best in the country, and their elastic hair is in great demand for stuffing saddles.

KLOPSTOCK, FRIEDRICH GOTTLIEB, a German poet, born in Quedlinburg, July 2, 1724, died in Hamburg, March 14, 1803. He was born in a small house at the foot of the castle hill in the *Schloessplate*, recognizable by the two pillars which support its porch. His father was a public functionary in comfortable circumstances; his mother a woman of great piety and beauty of character. His boyhood was spent amid the invigorating influences of the country, which retained a strong hold upon him during the rest of his life. He was very fond of athletic exercises, especially of skating. He attended the gymnasium of his native town, and in 1740 entered the seminary of Schulpforte. At that early age he was already possessed by the ambition of producing a great epic. The stirring incidents of the life of Henry the Fowler captivated for a time his imagination, as shown by some odes written by him in honor of that prince; but after his attendance at the university of Jena (1745), religious enthusiasm led to the conception of his "Messiah." In 1746 he went to Leipsic, then the resort of many literary men, who, after their secession from the pedantic school of Gottsched, had formed in 1740 a poetical union and established an independent literary journal published in Bremen. Klopstock, in his ode entitled "Wingolf," distinguishes Gellert, Rabener, Hagedorn, Gleim, and many others of his literary associates of Leipsic, who as early as 1747 had recognized him as a poet able to inaugurate a new era in German poetry. The first 3 cantos of his "Messiah" were published in 1748, in the 4th and 5th numbers of the 4th volume of the Bremen "Literary Journal," and the poem was eventually regarded as an epic equal to those of Dante, Milton, and Tasso, especially by the religious and female portion of the community. Gottsched, however, ridiculed what he called Klopstock's "seraphic spirit of fanaticism," and his strictures on his dogmatism, his effeminate and morbid tenderness, and his religious sentimentality were afterward confirmed by Lessing, although in a milder and more dignified spirit. Foremost among his admirers was Bodmer of Zürich, the opponent of Gottsched, the translator of Milton, and the head of a school of poets and religionists. From 1748 to 1750 Klopstock was employed as a teacher in the family of his relative Weiss in Langensalza, where he met the sister of his friend Schmidt, whom he celebrates in his odes as his beloved Fanny, but who did not reciprocate his affection. In the summer of 1750 he went with his friend Sulzer to Zürich, which he left in the following year, in compliance with an invitation from the Danish prime minister

Bernstorff, who offered him a pension of \$300, in order to enable him to devote himself exclusively to the completion of his epic. On his way to Copenhagen he fell in love with Margaretha (Meta) Møller, the daughter of a Hamburg merchant, whom he celebrates under the name of Cidli. On his arrival in the Danish capital he was received with marked distinction, and introduced to the king, whom he accompanied on a journey to Holstein, on which occasion he spent some time with Meta, who became his wife in 1754. She died in 1758, in her 31st year. The loveliness of her character is apparent in her correspondence with Richardson, the English novelist, with Cramer, an intimate friend of Klopstock, and with her husband. (See "Memoirs of Frederic and Margaret Klopstock," English translation, by Elizabeth Smith, London, 1808; and her correspondence with Richardson, 1818). Klopstock resided now alternately in Brunswick, Quedlinburg, and Blankenburg, until 1768, when he returned to Copenhagen. In 1771, on his friend Bernstorff's withdrawal from the ministry, he went to Hamburg with the rank of a councillor of the Danish legation. In the latter part of his life (1792) he contracted a second marriage with Johanna Elisabeth von Dimpfel, whose first husband had been a nobleman named Windhem. He lived in Hamburg until his death, occasionally visiting literary friends in various parts of Germany. A pension was conferred upon him by the prince of Baden, and honorary citizenship by the French revolutionists. His death was looked upon as a national calamity. His funeral (March 22, 1803) was celebrated with the pomp and solemnity generally accorded in Germany only to royal personages. He was buried in the churchyard in the village of Ottensen, near Hamburg, by the side of his Meta. The remains of his 2d wife, who died in 1821, rest in the same cemetery.—The last 2 vols. of his "Messiah" and the greater portion of his odes appeared from 1769 to 1778. He wrote various grammatical and philological works and sacred dramas, or rather dramatic poems, chiefly turning upon characters of the Old Testament, as "The Death of Adam," "Solomon," and "David;" also several patriotic dramas (*Bardieten*), in commemoration of the national hero Hermann. Novallis (Hardenberg) says that Klopstock's works resemble translations from some unknown poet, prepared by a skilful but unpoetical philologist. Goethe remarked in his conversations with Eckermann, that German literature was greatly indebted to Klopstock, who was in advance of his times, but that the times had since advanced beyond Klopstock. Goethe in his autobiography also records his personal impression of Klopstock: "He was of small stature, but well built. His manners were grave and decorous, but free from pedantry. His address was intelligent and pleasing. On the whole, one might have taken him for a diplomatist. He carried himself with the self-conscious dignity of a person who has a great

moral mission to fulfil. He conversed with facility on various subjects, but rather avoided speaking of poetry and literary matters." Among the various editions of his works is that of Leipsic (12 vols. 8mo., 1823), the 11th volume of which contains the posthumous writings of his first wife. Among the English translations of the "Messiah" is one into prose by Mrs. and Mr. Collyer, and the most recent metrical translation appeared in London in 1825-'6. The "Death of Adam" and "Solomon" were also translated into English, as well as his "Odes," the latter by W. Nind (London, 1848).—See also Miss Benger, "Klopstock and his Friends" (London, 1814); Mörikofer, *Klopstock in Zürich* (Zürich, 1851); and a French essay on him by Dietz (Paris, 1859).

KMETTY, GYÖRGY, a Hungarian general, born near Rima-Szombat, in the county of Gömör, in 1810. He became an orphan at the age of 6, and being destined for an ecclesiastical career, studied at the Protestant schools of Eperies and Presburg. In consequence of a disappointment he entered the Austrian army, and was an officer at the outbreak of the revolution of 1848. He ardently espoused the cause of his country, and by his valor and proficiency in military science rose to the rank of general, coöperated for some time with Görgey, and distinguished himself by the victory of Csorna (June 18, 1849), in which the Austrian lieutenant field marshal Vyas lost his brigade and life. He separated from the main body of the army of the Danube after the loss of Raab (July 28), joined the army of the south, and subsequently fought under Dembinski in the disastrous battle of Temesvár (Aug. 9). One of the last defenders of Hungary on the battle field, he soon after fled with Kossuth and Bem to Turkey, adopted together with the latter the Mohammedan religion, was made pasha under the name of Ismail, and during the Russian war distinguished himself by his eminent services and personal bravery in the defence of Kars against Muraviev (1855). When the town was compelled by famine to surrender, he withdrew to Erzroom, and has since maintained his position in the Turkish service.

KNAPP, ALBERT, a German poet, born in Württemberg in 1798. After becoming pastor of Stuttgart, he applied himself to poetry, especially to the composition of hymns, which are esteemed the best written in Germany in his time. He published a small volume of them annually between 1833 and 1853, under the title of *Christoterpe*. Among his other publications are three collections of poems (Stuttgart, 1829, 1834, and 1843), and *Evangelischer Liederschatz für Kirche und Haus* (1837; 2d ed. 1850), a valuable collection from the liturgies and hymns of every Christian century, to which his *Christen-Lieder* (1841) was a supplement.

KNAPP, GEORG CHRISTIAN, a German theologian, born in Halle, Sept. 17, 1753, died there, Oct. 14, 1825. He was educated in the orphan school at Halle, founded by Francke, of which

his father was director, and in the universities of Halle and Göttingen. In 1777 he became extraordinary, and in 1782 ordinary professor of theology at Halle, in which office he remained till his death; and he was also associated with Niemeyer as director of the charitable establishments founded by Francke. As a theologian he maintained a system of rational supernaturalism, seeking to harmonize revelation with the theoretical and the practical reason. His *Vorlesungen über die Christliche Glaubenslehre* has been translated into English, with additions, by Leonard Woods, jr., D.D.

KNAPP, SAMUEL LORENZO, an American author, born in Newburyport, Mass., in 1784, died in Hopkinton, July 8, 1888. He was graduated at Dartmouth college in 1804, studied law, and was admitted to the bar of Massachusetts. He made his first appearance as an author in "Travels of Ali Bey" (18mo., Boston, 1818), a work purporting to give an eastern traveller's experiences of society in Boston and Cambridge. It was followed in 1821 by "Biographical Sketches of Eminent Lawyers and Statesmen and Men of Letters;" and in 1828 the author, having previously been connected as editor or contributor with several literary journals, established himself in New York in the practice of his profession. Among his remaining works are: "Lectures on American Literature" (New York, 1829); "Sketches of Public Characters" (12mo., New York, 1830); "American Biography" (1833), consisting of original biographical sketches of distinguished Americans, full of anecdote, and constituting a valuable addition to this department of literature; and "Female Biography of different Ages and Nations" (12mo.). He was also the author of a variety of occasional public addresses.

KNELLER, SIR GODFREY, an English portrait painter, born in Lübeck, Germany, in 1648, died in London in Oct. 1728. He was instructed in painting by Rembrandt and Ferdinand Bol in Amsterdam, and afterward in Rome by Carlo Maratti and Bernini, and gained some reputation in Italy, particularly in Venice, for historical compositions. He arrived in London in 1674, and, having obtained an introduction to the king through the duke of Monmouth, was permitted to paint the royal likeness. The manner in which this was executed procured him abundant employment. Upon the death of Sir Peter Lely he was appointed court painter to Charles II., an honor confirmed by each successive sovereign during the life of the artist. He was knighted by William III., and painted the beauties of his court (which however are considered much inferior to Sir Peter Lely's beauties of the court of Charles II.), and was made a baronet by George I. He painted not less than 10 sovereigns, and an immense number of lesser celebrities. So numerous were his commissions that he was frequently only able to finish the faces of his portraits, leaving the draperies and accessories to be painted by others. He was

a covetous man, and acquired considerable wealth. His portraits possess greater value as likenesses of historical personages than as works of art. He is said to have left at his death 500 unfinished portraits on which he had received half the price in advance.

KNIAZIEWICZ, KAROL, a Polish general, born in Courland, May 4, 1762, died in Paris, May 9, 1842. He was educated at the military school of Warsaw, entered the army at the age of 16, and in the war which preceded the 2d partition of Poland he fought bravely against the Russians, especially in the battle of Dubienka (1793). When, simultaneously with Kosciuszko, Madalinaki raised the banner of independence in 1794, Kniaziewicz was among the first to join him, distinguished himself in the relief of Warsaw, rose to the rank of brigadier-general, and commanded under the dictator in the battle of Maciejowice, the unfortunate issue of which made both captives, and sealed the fate of the revolution. After a few years' imprisonment in Kiev, he was restored to liberty by the czar Paul on his accession to the throne, and hastened to join Dombrowski in Italy, where he received the command of the 1st Polish legion. With this he performed prodigies of valor in the war of 1798, especially at Calvi, Terracina, Gaëta, which he captured, and at the taking of Naples. He subsequently fought at the head of another Polish legion in Germany; but when Napoleon disappointed the hopes of the Polish patriots by the dissolution of their legions, and even sent the bulk of these troops to perish in the expedition against Hayti, he resigned and retired to an estate in Lithuania. In 1813 he again entered the French army, serving under Prince Poniatowski in the Russian campaign. He distinguished himself in the battles on the Moskva, at Viazma, and during the disastrous passage of the Beresina, where he was wounded. After the war, refusing to serve under Alexander, he lived in Dresden. His participation in a secret society, which aimed at the restoration of Polish independence, led to a demand of extradition on the part of the czar Nicholas, which was not consented to by the king of Saxony, though he was subjected to a trial by Russian commissaries in the fortress of Königsstein. His age preventing him from taking part in the revolutionary war of 1831, he endeavored in vain to serve his country as a diplomatist at Berlin and Paris. The promises of Gen. Sebastiani, the French minister of foreign affairs, which he received as ambassador, only served to hasten the final downfall of Poland. He remained an exile in Paris, where his name is inscribed on the triumphal *arc de l'étoile*.

KNIAZNIN, FRANCISZEK DYONIZY, a Polish poet, born in the ancient palatinate of Vitebsk, Oct. 4, 1750, died at Konskawola, near Pulawy, Aug. 25, 1807. He studied at the college of the Jesuits in Vitebsk, entered that order, and after its suppression repaired to Warsaw, where he found employment in the Zaluski library, and

eventually became secretary to Prince Adam Czartoryski. An unfortunate passion for the eldest daughter of his patron, however, and the tragic events which brought about the fall of his country, plunged Kniaznin into deep melancholy, which passed into derangement toward the close of his life. His works, of which there are various collections, comprise songs, idyls, fables, several larger poems, and translations. Some of his lyrics belong to the most charming productions of that kind in the Polish literature of his time.

KNIGHT, CHARLES, an English publisher and author, born in Windsor in 1791. His father was a bookseller at Windsor, and he succeeded to the business. His first publication, which he edited in conjunction with Mr. E. H. Locker, was "The Plain Englishman," a periodical (3 vols., 1820-'22). At Windsor, in 1823, he commenced "Knight's Quarterly Magazine," and continued it in 1824 in London, whither he then removed. This work, in 3 vols. 8vo., contains the earliest literary productions of Macaulay, Fraed, Moultrie, and others. In 1827-'8 he published a continuation of "The London Magazine," in which a few years earlier had appeared Carlyle's "Life of Schiller," and De Quincey's "Confessions of an English Opium-Eater." Soon afterward he became connected with the society for the diffusion of useful knowledge, as their publisher and agent, and immediately undertook a series of valuable works, under the sanction of the society, but generally at his own risk and expense. Foremost were the "Penny Magazine," in 8 series (1832-'45), which at one time enjoyed a circulation of nearly 200,000 copies weekly; the "British Almanac," and "Companion to the Almanac," begun in 1828 and still continued; the "Penny Cyclopædia" (30 vols. small fol., 1833-'56), since condensed as the "National Cyclopædia," the "Library of Entertaining Knowledge," to which he contributed a volume on "The Elephant" (1831); the "Pictorial History of England," by Craik and Macfarlane, with its continuation entitled "History of the Thirty Years' Peace," by Mr. Knight and Miss Martineau (1840-'50); and the "Gallery of Portraits of Distinguished Men." Several of the above works were edited by Mr. Knight, and all enjoyed much of his supervision. He has also edited the "Pictorial Bible" (4 vols. 4to., 1838); the "Pictorial Book of Common Prayer" (1838); the "Store of Knowledge" (8vo., 1841); "London Pictorially Illustrated" (6 vols. 8vo., 1841-'4; abridged into the "Cyclopædia of London," 1851); "Old England, a Pictorial Museum of National Antiquities" (2 vols. fol., 1845); the "Weekly Volume," a series extending to 126 vols. (18mo., 1843-'5); "Half Hours with the Best Authors" (4 vols. 8vo., 1847-'8); "The Land we Live in" (4 vols. 8vo., 1848); "Cyclopædia of the Industry of All Nations" (1851); "Half Hours of English History" (2 vols., 1853); "Geography of the British Empire" (2 vols. 8vo., 1853), &c. He has won a

position as a Shakespearean scholar by his "Pictorial Shakspeare," including a biography and a "History of Opinion, with Doubtful Plays and Index" (8 vols. 8vo., 1839-'41; library edition, 12 vols. 18mo., 1842-'4; national edition, with biography and "Studies," 8 vols. 8vo., 1851-'58); "Plays and Poems, with Glossarial Notes" (7th ed., 1 vol. 8vo., 1857); "Companion Shakspeare" (8 vols. 12mo., 1855-'7), &c. In 1854, having purchased the plates of the "Penny Cyclopædia," Mr. Knight began the "English Cyclopædia," based upon that work, but greatly enlarged and modified, which is to be completed in 20 vols. 4to. His own writings more especially are: "Results of Machinery" (1880), and "Rights of Industry, Capital, and Labor" (1881), amalgamated and enlarged under the title of "Knowledge is Power" (1855); "Life of Caxton" (1844), enlarged under the title of "The Old Printer and the Modern Press" (1854); "Varieties" (1844); "New Lamps for Old: Remarks on Mr. Collier's Discovery of the Annotations on Shakspeare" (1851); "Once upon a Time" (1854), a collection of his miscellaneous works; and "The Struggles of a Book against Excessive Taxation," and "The Case of the Authors as regards the Paper Duty," pamphlets which confessedly have largely contributed to the repeal of the English duty upon paper, as proposed in Mr. Gladstone's budget of 1860. In 1856 appeared the first volume of "The Popular History of England, an Illustrated History of Society and Government from the Earliest Period to our own Times." This work, the most important of Mr. Knight's writings, is to be completed within the present year (1860) in 8 vols. 8vo., bringing the British annals down to the repeal of the corn laws in 1846. Mr. Knight's whole life has been one of useful and intellectual labor, and it is not too much to say that he is the founder of that description of literature, cheap but good, which has exercised a very beneficial influence on the minds of his countrymen during the last 30 years. His success as a man of business has not been equal to his enterprise. His labors, however, have recently been rewarded by the appointment, through the influence of Lord Brougham, of publisher of the "London Gazette," almost a sinecure, at £1,200 a year.

KNIGHT, RICHARD PAYNE, an English author, born at Wormsley Grange, Herefordshire, in 1750, died in London, April 24, 1824. Being a sickly child, he was not put to school, nor allowed to study either Latin or Greek at home. In 1764, however, upon the death of his father, he was sent to a grammar school, and in the course of a few years obtained a thorough knowledge of Latin and Greek, the latter language becoming thenceforth one of his chief studies. Visiting Italy about 1770, he derived from the contemplation of its monuments of art, ancient and modern, an absorbing taste for the fine arts, and particularly for Greek sculpture. Upon attaining his majority he came into possession of a large property, and from 1780 to 1806 held a

seat in parliament, during the last 20 years as member for the borough of Ludlow, in which he owned a large estate. In 1814 he was appointed a trustee of the British museum, to which institution his unique collection of antiquities, consisting chiefly of ancient bronzes and Greek coins, and valued at £50,000, was bequeathed. His admiration of Greek art having directed his attention to those subjects which illustrate it, he published in 1786 "An Account of the Remains of the Worship of Priapus lately existing at Isernia, in the Kingdom of Naples; to which is added a Discourse on the Worship of Priapus, and its connection with the Mystic Theology of the Ancients" (4to.). This work was privately printed, and was attacked on the score of its indelicacy, notwithstanding the author's object was simply to elucidate an obscure point in Greek mythology. In 1791 appeared his "Analytical Essay on the Greek Alphabet" (4to.), in which he broached some opinions of questionable value on the use of the digamma, and also exposed the forgery of certain inscriptions claimed to have been found by Fourmont in Laconia, and which had deceived Winckelmann, Heyne, and some of the best scholars of the age. He next attempted poetry, and published in 1794 a didactic poem entitled "Landscape," followed by "The Progress of Civil Society" (4to., 1796), "A Monody on the Death of the Right Honorable O. J. Fox" (8vo., 1806-'7), and "Alfred, a Romance in Rhyme" (8vo., 1823), no one of which rises above mediocrity. In 1805 appeared his "Analytical Inquiry into the Principles of Taste" (8vo.), a work characterized by refinement and acuteness of thought, and which proved the most popular of all his publications. His edition of the Iliad and Odyssey, with prolegomena, in which he attempted to restore the digamma, and to relieve the text of the interpolations of later rhapsodists and poets, is now considered of little authority. He was at different times engaged in literary controversies having reference to Greek literature, art, and archaeology, and was an occasional contributor to the "Classical Journal," "Archæologia," &c. The prefaces and descriptions of "Specimens of Ancient Sculpture selected from different Collections of Great Britain by the Society of Dilettanti" (fol., 1809-'35) were also written by him.—THOMAS ANDREW, brother of the preceding, a vegetable physiologist, born Oct. 10, 1758, died in London, May 11, 1838. He was graduated at Balliol college, Oxford, and subsequently devoted much time to experiments in vegetable and animal physiology. Some suggestions as to be means of propagating fruit trees, communicated to the royal society in 1795, brought him into great repute as a vegetable physiologist. In 1797 he published "A Treatise on the Culture of the Apple and Pear, and on the Manufacture of Cider and Perry," in which the same subject is further developed; and in 1811, "Pomona Herefordiensis, or Natural History of the old Cider and Perry Fruits of the

County of Hereford." He was a frequent contributor to the "Transactions" of the horticultural society, of which he was for many years president, and to his efforts the rapid progress of horticulture in England during the present century is in a great measure to be ascribed. After his death appeared a collection of his physiological and horticultural papers (8vo., London, 1841).

KNIGHTHOOD. See CHIVALRY.

KNIGHTS OF THE SHIRE, a designation given to representatives in the British house of commons of counties at large, as distinguished from those of cities and towns ranking as counties. The origin of county representation is disputed. Traces of it are found at various periods as early as the reign of John; it certainly existed in 1265 (49th of Henry III.), when Simon de Montfort summoned a parliament in the king's name.

KNIPPERDOLLING, BERNHARD, one of the leaders of the Anabaptists in Münster, born near the end of the 15th century, executed Jan. 23, 1536. Exiled for several years from his native town, he adopted in Sweden the doctrines of the Anabaptists. On his return to Münster, he united with Rothmann and Matthyszoon, and being wealthy was able by the favors which he granted to unite the poorer inhabitants against the rich. He was imprisoned, but released by his partisans, and succeeded in banishing the nobility, clergy, and many of the most influential citizens from the city. A council was chosen in 1534, in which the Anabaptists were predominant, and they immediately filled all public offices with their adherents, made Knipperdolling first burgomaster, and proclaimed an equality of estates, polygamy, and community of goods. All who refused to cooperate with them were driven from the city or slain. Knipperdolling was subsequently proclaimed stadtholder, and John of Leyden king, it being prophesied that the latter should be victorious over all the princes and principedoms of the earth. The city was surprised by a Catholic army in 1535, and captured after a contest in which 5,000 men perished. Knipperdolling was taken prisoner, and put to death with fearful torture, which he endured with extreme inflexibility. The iron cages in which his body and the bodies of his fellow sufferers were suspended still hang from the tower of St. Lambert's church.

KNOBLECHER, IGNAZ, a German traveller, and Roman Catholic vicar apostolic of central Africa, born in Laybach about 1815. He was educated at the Propaganda in Rome with a view to devoting himself to the African mission, and after having been ordained went to Syria, where he passed a year in the study of Arabic. Thence he removed to Khartoom in Sennaar, on the Nile; and in 1849 was ordered to ascend that river and establish a mission among some negro tribes near the equator. Accompanied by another priest, Father Angelo Vinco, he set out, Nov. 13, with the trading party which annually goes up the Nile, and on Jan. 14, 1850, reached the rapids in lat. 4° 49' N., the furthest point

yet reached by any expedition. Father Knob-lecher, however, succeeded in stemming the rapids, and on the 16th reached the village of Logwek, in lat. $4^{\circ} 10'$. Climbing a solitary granite peak 600 feet high, from which the village is named, he traced the course of the river toward the S. W. until it was lost from sight between the mountains Rego and Kidi. Beyond these, on the verge of the horizon, rose a range of hills scarcely visible in the distance, which probably lie under the parallel of 8° N. The width of the river was here 650 feet, and its depth from 5 to 8 feet, although it was the dry season. After a stay of one day at Logwek, Dr. Knob-lecher was forced to return with the trading party to Khartoom, the jealous merchants having inspired the natives with such a dread of the missionaries, that the chiefs would not allow them to remain, lest they should bewitch the country. He examined the Bahr el-Ghazal or Gazelle river, which Berghaus maintains to be the true Nile, and found it an unimportant stream with a scarcely perceptible current; he regards the White Nile as undoubtedly the true river. Dr. Knob-lecher soon afterward visited Europe, and while in Germany published an account of his explorations. Returning to Africa, he fixed his residence at Khartoom, and, having received the appointment of vicar apostolic, now exercises the government of the church in central Africa.

KNOT, the European name of a sandpiper of the genus *tringa* (Linn.), one of the few birds common to the old and new worlds; other names are the ash-colored, red-breasted, gray-backed, and robin snipe; it is the *T. canutus* (Linn.). The length is about 10 inches, the extent of wings 20, the bill $1\frac{1}{2}$, and the weight 6 ounces; it is the largest of the genus in the United States. The color of the summer plumage is light gray above, with black and pale reddish spots; rump and upper tail coverts white, with narrow bands and crescents of black; below light brownish red, with under tail coverts, thighs, sides, and under wing coverts white, spotted and barred with brownish black; quills brownish black, with white shafts; tail brownish cinereous, each feather white edged. In winter the upper parts are darker, with brownish black edgings; below dull ashy white, lightest on abdomen, with numerous longitudinal dark brown lines and spots on the breast and neck. The knot is found throughout eastern North America and Europe. It is a very active bird, nimbly running and wading along the edge of the waves on sandy beaches, searching for minute shell fish and marine worms; the flight is swift, and large flocks perform very beautiful and rapid aerial evolutions. The flesh of the young and fat birds is considered a delicacy.

KNOUT, properly KNUT, the Russian word for whip, and the name of the severest judicial punishment inflicted in Russia. The culprit is bound to two stakes, and receives on his bare back the specified number of lashes from a whip of plaited thongs interwoven with wire; 100 to

120 lashes are considered equivalent to a sentence of death. The whipping is inflicted by the hands of a convict respited from Siberia and kept in prison for that purpose. Should a culprit survive this punishment, he is banished for life to Siberia. Formerly the nose was slit, the ears were cut off, and the letter V, for *Vor* (rogue), was branded on the forehead; but this aggravation was abolished by Alexander I. The nobility are legally exempt from the knout, but the privilege has not always been respected. Although the punishment is still in use in the Russian army, it is now rarely resorted to, excepting in the infliction of a limited number of blows, usually from 8 to 10, and more with the view of disgracing than injuring the soldier.

KNOWLES, JAMES DAVIS, an American clergyman and author, born in Providence, R. I., in July, 1798, died in New York, May 9, 1888. His father, Edward Knowles, a respectable mechanic of Providence, apprenticed him at the age of 12 to a printer, with whom he remained till after he had attained his majority. From his scanty wages he not only clothed himself and purchased books, but laid up something for the express purpose of an education to which he looked forward. While but a lad he studied French without a teacher, and learned to read it with facility. When he entered college he knew more of Latin than is known by most American graduates on taking college honors. He had a keen relish for elegant literature, and early exhibited in his compositions great purity of style. Immediately on becoming of age he became co-editor with the late Prof. Goddard of the "Rhode Island American." Here he pursued his studies, and indulged his literary tastes, occasionally amusing his leisure hours with writing poetry. The stanzas which he added to Gray's "Elegy," to supply what he deemed its melancholy deficiency in respect to religious sentiment, furnish a remarkable specimen of imitative verse. While editor he added the study of Greek to that of Latin and French, and at a later period he made respectable progress in Hebrew and German. At the age of 22 he was received into the communion of the first Baptist church in Providence, and appeared as a candidate for the ministry. He entered the sophomore class of Columbian college, Washington, D. C., in 1822, and edited at the same time a weekly religious newspaper, called the "Columbian Star." He was graduated in 1824, and immediately appointed tutor, but soon abandoned this position, and in Dec. 1825, was ordained pastor of a church in Boston. In 1832 he was called to the chair of pastoral duties and sacred rhetoric in the Newton theological institution. In 1836 he founded the "Christian Review," a quarterly journal of the Baptist denomination. Visiting New York in the latter part of April, 1838, to attend the anniversaries of his denomination, he took the small pox, and died in the 40th year of his age. Mr. Knowles's principal works are, a "Memoir of Mrs. Ann H. Judson" (57th thousand, Boston,

1867), and a "Memoir of Roger Williams, Founder of Rhode Island" (Boston, 1884).

KNOWLES, JAMES SHELDON, a British dramatist, born in Cork, Ireland, in 1784, the son of James Knowles, a lecturer on elocution. In 1792 the family removed to London, and 4 years later young Knowles produced his first play, a juvenile performance in which he and a number of young amateurs took part. Soon after he made the acquaintance of William Hazlitt, whose conversation and advice were of great service in developing and directing his dramatic tastes. To Charles Lamb he was also indebted for many useful hints. At the age of 22 he determined to make the stage his profession, and, against the earnest persuasions of his friends, made his debut in the Crow street theatre, Dublin, of which city he was then a resident. For about 10 years he led an unsettled life, sometimes as an actor, sometimes as a teacher of elocution, and with but moderate success in either occupation. He wrote nothing for the stage particularly worthy of mention until 1815, when his "Caius Gracchus" was produced in Belfast with great success. His next play, however, "Virginus," in which Macready sustained the leading part at Drury Lane, first made him generally known to the dramatic public; and thenceforth for many years he was one of the leading playwrights in England. His "Beggars of Bethnal Green," "Hunchback," and "Wife" followed; and in the two latter, which are still popular on the stage, the author appeared in leading characters. He now assumed the twofold character of actor and author, and after engagements in various parts of the United Kingdom made a successful tour in the United States. On his return to England he produced "The Love Chase," "Woman's Wit," "The Maid of Mariendorp," "Love," "Old Maids," "John of Procida," "The Rose of Aragon," and "The Secretary," all of which enjoyed a fair degree of success, while some are still standard acting plays. His health began to fail after this, and in 1849 a pension of £200 was procured for him, it being represented that the profits of his dramatic writings had never equalled this sum per annum. Of late years Mr. Knowles has abandoned the stage for the pulpit, and is known as a zealous and eloquent preacher of the Baptist denomination. Two polemical works, "The Rock of Rome," and "The Idol Demolished by its own Priest," testify to the energy with which he employs his pen in this new calling. He is also the author of two novels, "George Lovel" and "Henry Fortescue," which are much inferior in merit to his plays. By the latter, which are written on the model of the Elizabethan dramatists, he is almost exclusively known. They have been collected and published in England in 8 vols. (London, 1841-'8).

KNOX, the name of 7 counties in the United States. I. A N. W. co. of Texas, near the head of Brazos river, by which stream and the Big Wichita it is drained; area, about 1,200 sq. m. Most of the surface is hilly and broken, but in

the S. part there is an undulating mezquit prairie. Gypsum is so abundant as to render the water of most of the streams unfit for drinking, and the Wichita and Brazos are contaminated by deposits of salt near their sources. Timber is not abundant; the principal varieties are mezquit and cedar. The soil is a red loam suitable for pasturage and grain. The county was organized during the legislative session of 1857-'8. II. An E. co. of Tenn., watered by Clinch, Holston, and French Broad rivers; area, 575 sq. m.; pop. in 1850, 18,755, of whom 2,193 were slaves. The surface is mountainous, being crossed by Copper ridge, Chestnut ridge, and Bay's mountain. Iron ore, limestone, and marble are abundant, and the soil of the lowlands is fertile. The productions in 1850 were 861,708 bushels of Indian corn, 256,890 of oats, 27,867 of sweet potatoes, 20,231 lbs. of tobacco, and 176,916 of butter. There were 57 grist mills, 18 saw mills, 7 tanneries, 4 newspaper offices, 40 churches, and 2,500 pupils attending public schools. Capital, Knoxville. III. A S. E. co. of Ky., bordering on Tenn. and traversed by Cumberland river; area, 600 sq. m.; pop. in 1850, 7,050, of whom 612 were slaves. It abounds in iron ore, coal, and limestone, and has a mountainous surface. The productions in 1850 were 290,965 bushels of Indian corn, 2,526 of wheat, 48,841 of oats, 16,869 lbs. of tobacco, 18,766 of wool, and 9,884 of flax. There were 8 grist mills, 1 saw mill, 13 churches, and 975 pupils attending schools. Capital, Barbourville. IV. A central co. of Ohio, drained by Vernon and Walhonding rivers and the N. fork of Licking river; area, 525 sq. m.; pop. in 1850, 28,873. The surface is undulating, and the soil, particularly in the W. part, is remarkably fertile. The productions in 1850 were 728,729 bushels of Indian corn, 289,177 of wheat, 206,144 of oats, 281,318 lbs. of wool, 65,200 of tobacco, and 498,877 of butter. There were 25 grist mills, 28 saw mills, 9 woollen factories, 8 tanneries, 6 newspaper offices, 64 churches, and 6,315 pupils attending public schools. The Sandusky, Mansfield, and Newark, and the Springfield, Mount Vernon, and Pittsburg railroads connect at Mount Vernon, the capital. V. A S. W. co. of Ind., bordering on Ill., bounded W. by the Wabash river, S. by White river, and E. by the W. fork of the latter stream; area, 518 sq. m.; pop. in 1850, 11,084. It has a level surface, occupied in the W. part by prairies, and contains beds of coal. The soil is very fertile. The productions in 1850 were 720,725 bushels of Indian corn, 27,187 of wheat, 51,010 of oats, 2,783 tons of hay, and 21,941 lbs. of wool. There were 12 grist mills, 8 saw mills, 1 newspaper office, 22 churches, and 1,600 pupils attending public schools. Capital, Vincennes. VI. A N. W. co. of Ill., drained by Spoon river; area, 729 sq. m.; pop. in 1855, 22,700. It has an undulating surface, diversified with prairies and woodlands, a fertile soil well watered by creeks, and extensive beds of coal. The productions in 1850 were 1,370,861

bushels of Indian corn, 201,481 of wheat, 227,718 of oats, 13,164 tons of hay, and 67,849 lbs. of wool. There were 10 grist mills, 18 saw mills, 3 newspaper offices, 14 churches, and 2,448 pupils attending public schools. Capital, Knoxville. The Chicago and Burlington, Northern Cross, and Peoria and Oquawka railroads meet at the flourishing city of Galesburg in the W. part of the county. Galesburg (pop. in 1858, 7,000) has grown with great rapidity during the last few years, and is now the seat of considerable manufactures, and of Knox college, Knox female college, and Lombard university. In 1858 it contained 2 newspaper offices, 2 steam flouring mills, a steam sash and door factory, a steam saw and planing mill, a large foundery and machine shop, a bank, and a number of hotels. It is well built, and has wide regular streets. VII. A N. E. co. of Mo., drained by the N., S., and Middle Fabius, and the N. fork of Salt river; area, 512 sq. m.; pop. in 1856, 5,484, of whom 266 were slaves. It has a nearly level surface diversified with woods and prairies, and a fertile soil. The productions in 1850 were 216,027 bushels of Indian corn, 20,906 of wheat, 26,639 of oats, and 1,378 tons of hay. There were 4 grist mills, 3 saw mills, 1 church, and 124 pupils attending public schools. Capital, Edina.

KNOX, HENRY, an American general and statesman, commander of the artillery during the revolution and secretary of war under Washington, born in Boston, July 25, 1750, died in Thomaston, Me., Oct. 25, 1806. He was of Scotch and Irish Presbyterian stock, and his father came from St. Eustatius, one of the British West India islands. He received the common school education of his time in Boston, and was remarked as a youth of fine abilities and generous disposition, fond of the heroic examples of former ages, and, according to Dr. Eliot, who was nearly his contemporary, giving constant presage of future eminence. Of a robust and athletic frame and an enterprising and resolute character, he was foremost in the contests between the North and South ends, to the latter of which he belonged; and Mr. Tudor relates that once, in the frolicsome celebration of Pope's night, the wheel of the carriage which sustained the cumbrous pageant having given way, he substituted his own shoulder and bore the vehicle without interruption through the fray. He had the mishap to mutilate one of his hands in a shooting excursion upon the islands, a defect which he was accustomed to cover up by the folds of a handkerchief, and which in Stuart's full-length portrait in Faneuil hall is skilfully avoided by the resting of the arm on a cannon. He was brought up to the business of a bookseller, and had a thriving trade, his shop being a favorite resort of cultivated persons. On the day of the Boston massacre he accosted Capt. Preston, and earnestly urged him not to fire on the crowd. He was a member of the famous artillery company of Major Adino Paddock, which afterward furnished a large proportion of the ablest officers of the

Massachusetts artillery. He was also an officer in the corps of grenadiers commanded by Major Dawes, which attracted the attention and won the applause of the British officers. By availing himself not only of the practical advantages about him but of his opportunities for obtaining and perusing military books, he became an adept in military science. Among those who frequented his store was Miss Lucy Fluker, an attractive daughter of the provincial secretary. The result was her marriage with the young bookseller, which in consequence of the opposition of her friends wanted little of an elopement. They regarded her social prospects as ruined by wedding one who had embraced the cause of the rebellion, but after the revolution she became a principal ornament of the first social circle in America. Shortly before the battle of Bunker hill he managed with some difficulty to escape the guards of Gen. Gage with his wife, and to make his way to Cambridge with his sword carefully concealed in the folds of her dress, thus eluding the requisition for every citizen to surrender his arms before leaving the town. He was actively engaged in the battle of Bunker hill as a volunteer aid to Gen. Ward, reconnoitring the movements between the heights and the head-quarters; and upon his reports Ward issued his orders. He soon attracted the attention of Washington by his skill as an engineer in planning and constructing the fortifications that were thrown up, and by his aptness as an artillerist. Attached to the regiment of artillery which had been formed under the veteran Gridley, he was soon raised to its command, in accordance with the recommendation of Washington, by the unanimous voice of the whole corps, and with the full consent of Gridley, who was deemed too old for active service. He was next employed on a mission to the forts in the region of the lakes in quest of cannon and ordnance stores. He successfully struggled with all kinds of difficulties in the dead of winter, and returned to camp early in 1776 with a long train of sledges drawn by oxen and bearing more than 50 cannon, mortars, and howitzers, which proved of great service in the siege and bombardment of Boston. The next movement of his corps was with the main body of the army to New York, where he had his quarters at the Battery close by those of Washington. There he took the management of all the artillery, constantly attending to its distribution and details, crossing daily with Washington to the encampment on Long island to superintend the duties of his department on that side, and during the retreat was prominently engaged in the removal of the troops and weighty materials further up the North river. He was almost the last officer to leave the city, remaining so late that he escaped capture only by seizing a boat and making his way by water. His arrival at Harlem, where great anxiety was felt for his safety, was greeted with a shout of welcome, and an embrace from Washington. He was one of the officers who witnessed with Washington the at-

tack upon Fort Washington, arriving too late to avert the catastrophe. In the subsequent weary progress through New Jersey he explored the upper region of that state, marking suitable sites for the position of the army in the coming emergencies of the campaign. He attended to the artillery in the crossing of the Delaware, and also rendered valuable services by his stentorian voice, giving orders that were heard above the tempest. He and Greene were for following up the victory at Trenton by marching directly upon New Brunswick and anticipating the advance of the enemy, but were overruled by the prudence of Washington. His well directed cannonade repulsed Cornwallis in repeated attempts to pass the Assunpink (Jan. 2, 1777). He shared in the night march which succeeded, and in the brilliant action at Princeton on the following day. At this critical period it was by the advice of Knox, who had been advanced by congress to the rank of brigadier-general of the artillery, that Washington selected the position of his final winter encampment on the high grounds in the vicinity of Morristown. He was sent to Massachusetts to expedite the raising of a battalion of artillery, and became the organ of communication with the executive council of the state concerning the military events of that year. On his return he was employed with Gen. Greene (May 12) on a visit of inspection to the forts and passes of the highlands, to guard against the designs of the enemy in that quarter, and to prevent the interruption of communication with the eastern states. His standing in the service was for a moment disturbed by the ambition of the foreign officer Ducoudray to obtain the command of the artillery. An urgent remonstrance was presented, and Washington offered a testimonial to the worth of Knox as "a man of great military reading, sound judgment, and clear perceptions," who, "combating almost innumerable difficulties, had placed his department on a footing of the greatest honor to himself and advantage to the public." The chivalric career of Ducoudray was brought to an untimely close by the plunge of his high-mettled steed into the Schuylkill, while hastening as a volunteer to the battle of Brandywine. In that battle the fire of the artillery against Knyphausen at Obad's ford was maintained with vigor from morning till evening; and though the day was adverse and several pieces were lost, Knox always spoke of the action with pride. The failure at Germantown was partly attributed to his tenacious adherence to the military maxim never to leave an enemy's fort in the rear, causing the pursuit to be abandoned at Chew's garrisoned house. There were other reasons, however, against pressing the advance in the fog and confusion, while superior and fresh forces were coming up from Philadelphia. After the fall of Fort Mifflin, Nov. 15, 1777, he was sent with De Kalb and St. Clair to provide for the security of Red Bank. He passed the winter at Valley Forge, laboring to improve the discipline and efficiency of the army, and was prominently en-

gaged in the hot and long-drawn battle of Monmouth, June 28, 1778, reconnoitring in front while Oswald was using his pieces to check the enemy, rallying the retreat with his powerful voice, and bringing up the rear with a brisk battery planted in the night, and served by his brigade-adjutant Du Plessis. In the general order after the battle Washington had "the satisfaction to inform Gen. Knox and his officers that the enemy had done them the justice to acknowledge that no artillery could be better served than theirs." After the arrival of the French fleet and troops under Rochambeau, Knox accompanied Washington and Lafayette to meet him at Hartford, to mark out their future plans of cooperation, and returned by way of West Point, where he learned the astounding discovery of Arnold's treason and flight. He sat on the court martial for the trial of André. De Ohasstellux, who visited the American camp in 1780, has particularly described the delightful impression produced personally by Knox. In the ensuing winter he was again sent to Boston and to the legislatures and executives of the New England states to urge them to expedite their preparations of men and means for the next campaign. He was present at the second interview between Washington and Rochambeau at Weathersfield to concert measures to be taken against New York and the movement of the army southward to Yorktown; and his skill in forwarding the heavy cannon, ordnance stores, and ammunition, caused Washington to report to the president of congress: "The resources of his genius supplied the defect of means." On the arrival of the French fleet under De Grasse in the Chesapeake, Knox was one of the generals who accompanied Washington on board of the flag ship, to make arrangements for an immediate and combined attack upon Cornwallis. His station at Yorktown during the heaviest part of the cannonade was in the grand battery by the side of Washington. He was now advanced by congress to the rank of major-general, and was commissioned with Gouverneur Morris to arrange the exchange of prisoners and settlement of expenses, and with Heath for the purpose of a general cartel. He was efficient in allaying the discontent of the army at the prospect of its dissolution without pay or security, was head of the committee appointed to memorialize congress on the subject, and proposed the patriotic resolutions in answer to the address of Washington at the Newburg meeting, March 15, 1783. Hamilton indicated him at this crisis as especially possessing the confidence of the army. He was placed in command at West Point after the announcement of the cessation of hostilities, and on him devolved the delicate task of disbandment. From him came the suggestion of the society of the Cincinnati, to perpetuate the friendships formed during the war. Its first draft remains in his handwriting, and he was its secretary-general while Washington was its president. He was appointed to arrange the surrender of New York with Sir

Guy Carleton, and rode by the side of Washington in making the grand entry on the day of its evacuation by the British. At the farewell interview between Washington and the other principal officers he was the first to receive the affectionate embrace of the commander-in-chief, with whom he had been constantly and intimately associated throughout the war. After the peace he was a candidate with Greene and Lincoln for the secretaryship of war, in which office he succeeded the last in March, 1785. There was no separate department for the navy, and its duties therefore devolved chiefly on him. He was much occupied also with Indian affairs and the care of the western posts. He was a frequent correspondent and adviser of Washington, especially concerning the measures leading to the adoption of the federal constitution and matters pertaining to New England. He visited Massachusetts during Shays's rebellion, with Lincoln, to report to Washington its character and progress. He retained his department after the organization of the new government. To him and Col. Humphreys was assigned the task of prescribing the formalities of the republican court. By coinciding with the views of Hamilton on the general policy of the administration, he incurred the displeasure of Jefferson. The military school at West Point was projected when he first took command there, and constantly engaged his interest. The exigency of affairs with France and Algiers, and the defeats of Harmer and St. Clair by the north-western Indians, followed by the victory of Wayne, were among the later objects of his official attention. In Dec. 1795, following the example of Hamilton, he retired from the cabinet in order to attend to his private affairs. When Washington reluctantly accepted his resignation, he gave to him an affectionate and strongly expressed testimonial of the high worth of his services, which Knox lodged in the war office as a public deposit. He then removed to St. Georges in Maine for the improvement of an estate, derived partly in the right of his wife and partly by purchase, upon which he expended large amounts. There he exercised a magnificent hospitality. When in 1798 the army was reorganized at the prospect of war with France, his feelings were deeply wounded by the cabinet's reversal of President Adams's order of appointments, and the precedence assigned to Hamilton in the new military arrangements. His proposal was to serve as aide-de-camp to Washington. Gen. Knox was large in person, of a generous, buoyant, and social disposition, cordially appreciated and beloved by his friends, possessing unquestionable integrity, unsurpassed energy, and a mind liberally cultivated by study.

KNOX, JOHN, the leader of the Protestant reformation in Scotland, supposed to have been born in Gifford, Haddingtonshire, in 1505, died in Edinburgh, Nov. 24, 1572. (The society of antiquaries of Scotland discussed the subject of his birthplace in Jan. 1858, when Mr. John Richardson of Haddington brought forward

evidence that he was born in Giffordgate, a suburb of Haddington, and not in Gifford, a village near that town. He was supported in this view by Mr. Laing, the editor of the reformer's works.) After receiving his preliminary education at the grammar school of Haddington, he was sent in 1521 to the university of Glasgow, where for several years he was instructed in the scholastic philosophy and theology, while the reforming opinions were spreading through the country. Noted as a master of dialectic subtleties, he was ordained prior to 1530, and became a teacher of philosophy at St. Andrew's. The study of the fathers, especially of Jerome and Augustine, had shaken his religious opinions as early as 1535, but it was not till 1543 that he became an avowed and marked reformer. At that time many persons of his acquaintance, "earls, barons, gentlemen, honest burghesses and craftsmen," had either secretly or openly embraced the new creed. The long period of silence, before in mature age he explained his views with singular zeal, decision, and completeness, has been regarded as proof that he was naturally of a prudent and peaceful disposition, and not a turbulent partisan. His reprehension of certain practices of the church caused him to retire from St. Andrew's to the south of Scotland, where he was declared a heretic, degraded from his office, and threatened by assassins. In default of more definite occupation, he became tutor to the sons of two noble families, listened to the reformed teachers, and occasionally preached to the inhabitants of the surrounding country. After the death of his friend George Wishart, he remained in retirement till, nearly a year after the murder of Cardinal Beaton, he took refuge with many other Protestants (1547) in the castle of St. Andrew's, which the regent was vainly attempting to reduce. There for the first time he became known as a powerful preacher against the papacy. The regent, reinforced by a French squadron, obliged the garrison to surrender. The terms of the capitulation were violated, and Knox with his comrades was transported to France, where he was imprisoned on the galleys for 19 months. He experienced extreme hardships, and on his release (1549) directed his course to England, where he was appointed to preach at Berwick and at Newcastle, and became one of the chaplains of Edward VI. For the boldness of his discourses he was several times called to account, but he was able to vindicate himself. A bishopric was offered to him, but he declined it from scruples as to the divine authority of the episcopal order. On the accession of Queen Mary he fled from England to Dieppe, and passed thence to Geneva, where, after taking part in the memorable troubles at Frankfurt and after a short visit to Scotland, he became pastor (1556) of a small English congregation. The two years of his residence in Geneva, in the society of Calvin, Beza, and other learned men, were among the happiest of his life. "In other places," he wrote to a friend, "I confess Christ

to be truly preached; but manners and religion to be so sincerely reformed, I have not yet seen in any other place beside." While in Scotland he had been cited to appear before an assembly of the clergy to be held at Edinburgh, but his opponents avoided the discussion when they found him ready to meet it, supported by persons of influence. But after his return to Geneva the citation was renewed, and he was condemned to be burned as a heretic, and the sentence was executed on his effigy. Against this condemnation he published the "Appellation of John Knoxe." He also wrote a tract entitled the "First Blast of the Trumpet against the Monstrous Regiment of Women" (1558), a vehement attack on the political government of women, at a time when Mary of Guise was regent of Scotland and Mary Tudor queen of England, and the nearest in succession to both thrones were females. Invited by the Scottish Protestants to resume his labors in his native country, he landed at Leith in 1559, and rejoiced that he had come "even in the brunt of the battle." The queen regent, throwing off all disguise, had laid her plans for the forcible overthrow of the reformation. At a convention of the nobility and clergy in Edinburgh all the demands of the Protestants were refused. Several of the reforming preachers were summoned to appear at Stirling for trial, but by the dissimulation of the regent were prevented from attending and then outlawed for their failure. Knox hastened to meet them at Perth, where he preached against the idolatry of the mass and the veneration of images. At the conclusion of the service an encounter between a boy and a priest, who ventured to make the preparations for celebrating the mass, was the occasion of a violent insurrection. The images in the churches were demolished, the pictures torn from the walls and trampled under foot, the holy recesses invaded, and the "rascal multitude," as Knox calls them, did not stop till they had sacked and laid in ruins the houses of the Dominican and Franciscan friars and the Carthusian monastery. The queen regent advanced upon Perth with a considerable army, but, finding the Protestants well prepared for resistance, proposed terms of accommodation which were accepted. The Protestants, in order to consolidate their strength, formed a religious bond or covenant, and began to be distinguished as the congregation, and their leaders as the lords of the congregation. Iconoclasm was a prominent feature in the Scottish reformation. Events similar to those at Perth followed at Stirling, Lindores, Cupar, St. Andrew's, and other places. Knox had preached in the cathedral of St. Andrew's against the advice of his friends and the threats of the archbishop, and with such success that the magistrates united with the inhabitants in desolating the churches and monasteries, and in establishing the reformed worship. Meantime civil war raged throughout the kingdom between the regent, assisted by French troops, and the lords of the congregation, who im-

plored the succor of Elizabeth. In political as well as ecclesiastical affairs Knox was a conspicuous adviser, and took up his residence in Edinburgh after an extensive circuit through the southern and eastern counties. After a contest of 12 months, marked by many atrocities, the vigorous assistance rendered by Elizabeth, and the death of the queen regent while the English troops were investing Edinburgh, led to a truce and to the summons of the parliament to settle differences. Parliament assembled in Aug. 1560, and the reformed religion was established, and Roman Catholicism interdicted by law in Scotland. Knox retained the office of minister in the metropolis, and soon after the arrival of the young Queen Mary (Aug. 21, 1561) she summoned the influential and noted reformer to her presence. Six interviews are recorded between him and the queen, and the questions which she raised were discussed by him with an undaunted freedom and rigor, which once drove her to tears. She caused his arrest on a charge of treason in 1563, but all the councillors except the immediate dependents of the court voted for his acquittal. The vehemence of his public discourses led him into frequent difficulties. In 1562 he disputed publicly for 3 days with Abbot Quentin Kennedy at Maybole; in 1565 he quoted certain texts which gave offence to the king (Darnley), and was for a short time prohibited from preaching; he fled from Edinburgh when the queen returned from Dunbar after the death of Rizzio; and he preached a sermon at the coronation of the infant king at Stirling (July 29, 1567). Under the brief regency of Moray, the work of Knox seemed to be completed, and he thought of retiring to Geneva to end his days in peace. After the assassination of Moray, civil and religious confusion returned under the regency successively of Lennox and Mar. Weakened by a stroke of apoplexy in 1570, Knox yet reappeared in the pulpit, while Kirkaldy of Grange and others of his friends were forsaking the cause of the reformation, and while he differed from his brethren in the assembly about praying for the queen. So violent was the enmity excited by his animadversions, that, following the advice of his friends, he left Edinburgh for St. Andrew's, May 5, 1571. He returned in the following year, and his last energies were put forth in denunciations of the perpetrators of the massacre of St. Bartholomew's.—The doctrines of Knox embraced a Calvinistic creed and a Presbyterian polity. The "Order of Geneva," a liturgy which he shared in preparing for the use of the church at Frankfort, and subsequently employed in his congregation at Geneva, was introduced into Scottish Protestant churches in 1565. His character was marked by a stern realism, which could be beguiled by no social pretensions, no conventional dignities, no pompous traditions. From this sprang his scornful bitterness and his insensibility to the social graces and refinements which Mary exhibited personally, and sought to transplant

from Paris to her native land. His preaching was distinguished for a headlong and vehement energy, which, as the English ambassador said, "put more life into him than 600 trumpets." Earnest and intense in every practical direction, his mind was not at all of a reflective or speculative cast, and as a thinker, save perhaps on political subjects, he takes no rank; his political views rather sprang from an instinctive sense than from the development of fundamental principles. The best known of his writings is the "Historie of the Reformation of Religion within the Realm of Scotland" (1586; mutilated ed. by David Buchanan, London and Edinburgh, 1644; complete ed., Edinburgh, 1782). A collected edition of his works, edited by David Laing, is in progress in Edinburgh (6 vols., 1846-'56). The principal biography of him is that by Thomas McOrie (1812; new ed., 1839).

KNOX, VICESIMUS, an English clergyman and author, born at Newton Green, Middlesex, Dec. 8, 1752, died in Tunbridge, Kent, Sept. 6, 1831. He was educated at St. John's college, Oxford. In 1778 he was elected master of Tunbridge school, and continued for 33 years to preside over that institution. He then settled in London, where his preaching was much admired. He was a voluminous and popular writer, but has been best known as the editor of the compilation entitled "Elegant Extracts." His works, with a biographical preface, were published in London in 1824, in 7 vols. 8vo., including "Essays, Moral and Literary."

KNOXVILLE, a city of Tennessee and seat of justice of Knox co., situated on high ground on the right or N. bank of Holston river, 4 m. below the mouth of the French Broad river, and 185 m. E. from Nashville; pop. in 1850, 3,690; in 1860, about 8,000. The Holston is navigable to this point by steamboats, and the city is the place of junction of the E. Tennessee and Georgia and E. Tennessee and Virginia railroads; another road, now building, will connect it with Lexington, Ky., and various towns in North and South Carolina. It is the principal commercial place of E. Tennessee, and is rapidly growing in size and importance. It is the seat of the state asylum for the deaf and dumb, in which during the 2 years ending July 15, 1857, there were 80 pupils under instruction, and of the university of East Tennessee, founded in 1806. The medical department of the latter institution was established in 1856. Knoxville also contains 3 academies, 8 churches, 4 newspaper offices, 3 banks, a large car factory, a flouring mill, and an extensive manufactory of glass. Knoxville was settled in 1789, and received its name 2 years later in honor of Gen. Henry Knox, secretary of war under President Washington. In 1794 it became the capital of the territory, and it continued to be the seat of the territorial and afterward of the state government until the legislature was removed to Nashville in 1817. In 1794 the first steps were taken toward the establishment at Knoxville of Blount college, the parent of the present university.

KNYPHAUSEN, BARON, a lieutenant-general in the British service during the American war of independence, born in Alsace about 1780, died in Berlin in June, 1789. His father commanded a regiment under the duke of Marlborough, and his own military career commenced in the service of Frederic William I. of Prussia, the father of Frederic the Great. Subsequently he served in the several wars waged by the latter against Austria. In 1776 he received from the British government the command of 12,000 Waldeckers and Hessians hired to aid in repressing the insurrection in the American colonies, and arrived in New York in time to participate in the battle of Brooklyn, Aug. 1776. He was present at White Plains, and aided in the capture of Fort Washington in Nov. 1776, and in the defeat of the American forces at Brandywine in the succeeding year. In June, 1780, being then in temporary command of the British troops in New York, during the absence of Sir Henry Clinton, he made a descent into the Jerseys with 5,000 men, in the hope of rallying the disaffected Americans to the royal standard; but he accomplished little beyond sacking the village of Connecticut Farms. On the 23d he reentered the Jerseys with reinforcements, and attacked the detachment under Greene which occupied Springfield and the heights in the rear. But so skilful were the dispositions of the American general, that after an indecisive conflict the British again returned to Staten island, after burning the village of Springfield. He was a man of fine personal appearance, amiable and simple-minded.

KOALA, a marsupial animal of the phalanger family, and genus *phascogale* (De Blainville), the *P. cinereus* (Fisch.). The dental formula is: incisors $\frac{3}{1}$, canines $\frac{1}{1}$, premolars $\frac{1}{1}$, molars $\frac{4}{4}$ =30; the posterior upper incisors and canines are small, and the crowns of the molars have 4 tubercles. The body is stout; the head moderate, with a very short facial portion and naked muffle; ears moderate and clothed with long hairs; eyes large and not protected by lashes; moustaches small and scanty. The toes of the fore feet are in 2 sets, one composed of the 2 inner (which are the shortest), and the other of the 3 outer, of which the central is the longest, and all have long, curved, and compressed claws; the two portions of the feet are slightly opposable; the 1st toe of the hind feet is very far back, large, and without a nail. The stomach is provided with a cardiac glandular apparatus, and the cæcum is 3 times as long as the animal; the pouch is well developed; the tail is wanting. The koala is about 2 feet long, 10 or 11 inches high, with a girth of 18 inches; the limbs are powerful, and the large hands and feet admirably adapted for climbing trees; the fur is dense, soft, and woolly, of a general ashy gray color, inclining to brown; hinder part of back dirty yellowish white, under parts dirty white, and inside of hind limbs rusty brown. It inhabits New South Wales, where the natives

hunt it for the flesh, pursuing it into the tops of the highest gum trees, in which it passes the day feeding on the tender shoots or sleeping; it descends the trees at night in search of roots, which it digs up with its powerful claws. On the ground it creeps slowly, and when climbing looks like a small bear; when angry it assumes a fierce look and utters a shrill cry. Koalas are found in pairs, and the mother carries her young one on her back when it has outgrown her pouch; they are very tenacious of life. An account of this so called native bear may be found in the London "Philosophical Transactions" for 1808, in which, however, the koala is confounded with the wombat, another Australian marsupial. The skull is remarkable for its oblong quadrate form, great width of nasal bones, length of zygomatic arches, auditory protuberances, and depth of rami of lower jaw.

KOCH, KARL HEINRICH EMANUEL, a German traveller and naturalist, born in Weimar in 1809. He studied the natural sciences and medicine at Würzburg and Jena, and undertook in 1836 a scientific journey through the southern provinces of Russia and the Caucasian isthmus, of which he published a narrative (2 vols., Stuttgart, 1842-'3). In a second journey in 1843-'4 he extended his researches through Turkey and Armenia to the Caspian sea, obtaining the materials for a new work, *Wanderungen im Oriente* (8 vols., Weimar, 1846-'7). On the outbreak of the eastern war, the 8d vol. was published separately under the title of *Die Krimm und Odessa* (Leipzig, 1854; translated by Korner, London, 1855.)

KOCHANOWSKI, JAN, a Polish poet, born in the palatinate of Sandomir in 1583, died in Lublin in 1584. He studied in Germany, France, and Italy, and after his return to Poland was employed by King Sigismund Augustus in various missions. He soon retired, however, to private life at his country seat of Ozarnolas. His lyrical productions in both Polish and Latin, which belong to the finest of that age, gained him the appellation of the Polish Pindar. Among his writings are a translation of the Psalms in Polish verse, various satires, and a drama. The editions of his works are numerous.

KOCK, CHARLES PAUL DE, a French novelist and dramatist, born at Passy, near Paris, May 21, 1794. The son of a Dutch banker who had removed to France, and who died on the scaffold during the revolution, he was carelessly educated under his mother's supervision, and entered a banking house in the capacity of a clerk. In 1818 he printed at his own risk his first novel, *L'enfant de ma femme*, which was unsuccessful. He then produced a number of melodramas, vaudevilles, and comic operas, which brought him into notice. In the mean time he published several lively but not very decent tales and novels, which increased his popularity until he became a great favorite among the middle classes of France. His dramatic works number over 100.

KOEKKOEK, BERNARD CORNELIUS, a Dutch

landscape painter, born in Middelburg, Oct. 11, 1808, died in Nov. 1858. At the great exposition in Paris in 1855 he received a medal of the first class. For many years previous to his death he resided in Cleves, where he established a school of design.

KOEPPEN, ADOLPHUS LOUIS, a Danish lecturer and author, born in Copenhagen, Feb. 14, 1804. He was destined for a military career, but subsequently pursued a course of law studies, and in 1825 entered the royal board of commerce. In 1830-'31 he made a pedestrian tour over Europe; and in 1834, during a visit to Greece on account of his health, he received an invitation from King Otho to fill the professorship of history, archæology, and modern languages at the royal military college of the Euelpidea, then situated in the island of Ægina. In this position he remained 9 years, visiting in the interval many parts of Greece and Asia Minor. Being obliged in 1843, in consequence of the popular rising against the German system of government, to retire from his professorship, he returned to Denmark, and in 1846 came to the United States at the invitation of the historical society of Philadelphia, before which in the succeeding year he delivered a course of lectures on "Ancient and Modern Athens and Attica," which were repeated within the next few years in an enlarged form before the Lowell institute in Boston, the Smithsonian institution in Washington, the university of Virginia, Brown university, and other institutions. In 1850-'51 he delivered a course of lectures on the political, social, and literary history of the middle ages, in illustration of which he published in 1854 his "World in the Middle Ages" (2 vols. 12mo., New York), with an "Atlas of the Middle Ages." In the same year he accepted the professorship of history, æsthetics, and modern languages in Franklin and Marshall college, Lancaster, Penn., which he still holds.

KOEPPEN, CARL FRIEDRICH, a German scholar, born in the latter part of the 18th century. For many years past he has been a teacher in the principal gymnasium of Berlin, and ranks next to the director of that institution. In 1848 he published a treatise on the rise and development of the idea of the *Jure Divino*—the divine right of kings. The impression was immediately exhausted, but the government has not allowed him to issue another edition, and has refused to raise his salary, although an increase has been granted to all his fellow instructors. In 1857 appeared his *Die Religion des Buddha und ihre Entstehung*. The various data in relation to the similarity of old and new superstitions are here brought together with great skill and scholarship into one well arranged and comprehensive work. His next important work, *Lamaische Hierarchie*, or the Lamaic system of religion as it exists in Tibet, Mongolia, and China, was published in 1859, and is regarded as a remarkable addition to that branch of study.

KOHL, JOHANN GEORG, a German traveller and author, born in Bremen, April 28, 1808. After studying law at Göttingen, Heidelberg, and Munich, and passing several years as private tutor in Courland, he travelled in Russia, and returned to Germany in 1838. His observations furnished the materials for 3 publications, which were so favorably received that he decided to devote his life to travel. He fixed his residence at Dresden, whence he made numerous excursions to England, Holland, Denmark, France, Switzerland, Dalmatia, Hungary, and other parts of Europe; and his narratives comprise 17 distinct works, most of them in 2 or 3 vols. each. He has also written some scientific treatises, as *Der Verkehr der Menschen in seiner Abhängigkeit zu der Erdoberfläche* (Dresden, 1841); *Der Rhein* (1851); *Die Donau* (1853); *Skizzen aus Natur- und Völkerleben* (1851); and a series of essays entitled *Aus meinen Hütten* (1852). He has long been collecting complete materials for a history of the voyages pertaining to the discovery of America. He pursued his researches while travelling for several years in the United States, and since his return to Germany has published two books, one on his travel in north-western America, and the other translated into English under the title of "Kitchi-Gami: Wanderings round Lake Superior" (London, 1860), and containing many of the traditions of the Ojibbeway Indians. He has also prepared a work on the history and geography of America, which has not yet appeared.—His wife, IDA KOHL, wrote in connection with him the *Englische Skizzen* (1845), and separately *Paris und die Franzosen* (1845).

KÖHNE, FREDERIC, an American merchant, of German extraction, born in Rheda, Prussia, March 80, 1757, died in Philadelphia, May 26, 1829. He emigrated in 1780 to the United States without money or resources, obtained a clerkship with a merchant in Charleston, S. C., subsequently entered into business on his own account, and at the age of 50 retired with a large fortune, passing the remainder of his life alternately in Charleston and Philadelphia. Nearly \$400,000 of his property was bequeathed to various societies connected with the Protestant Episcopal church, and to charitable institutions, and his surplus residuary estate was directed to be shared among the charitable institutions of South Carolina and Pennsylvania in such a manner that the colored population of each state might have the benefit of it.

KÖLOSEY, FERENCZ, a Hungarian author and orator, born in the county of Middle Szolnok, Transylvania, Aug. 8, 1790, died in Pesth, Aug. 24, 1838. He studied at the Protestant college of Debreczin, and, though deprived by an accident of one of his eyes, early distinguished himself by his literary attainments, became a zealous follower of Francis Kazinczy, and devoted himself especially to belles-lettres, writing for the "Transylvanian Museum." In 1809 he was appointed notary of the royal court at Pesth, and in 1826, together with his friend Paul

Szemere, started a literary periodical under the title of *Élet és irodalom* ("Life and Literature"), which owed its popularity chiefly to his own critical contributions. Having been elected 8 years later notary of the county of Szatmár, and subsequently deputy of that county to the diet of Presburg of 1832-'6, he acquired new fame by his political activity as a member of the opposition, and as an orator became one of the favorites of the nation. When Baron Nicholas Wesselényi was arraigned for treason by the Austrian government, Kölosey, prompted by friendship and patriotism, eagerly undertook his defence, but died suddenly soon after. His "Works," embracing songs, ballads, satires, short novels, critical writings, and some of his orations, were collected after his death, to which was added after the outbreak of the revolution of 1848 his "Diary during the Diet of 1832-'6." Critical acuteness, a peculiar vigor of diction in prose, and elegance in poetry, combined to elevate him to the first rank among Hungarian writers, and he ranks equally high as a patriot.

KOLLAR, JÁN, a Slavic scholar and poet, born in N. W. Hungary in 1798, died in Vienna, Jan. 29, 1852. He studied at Presburg and Jena, took orders, and in 1819 became a preacher of an evangelical congregation at Pesth. Being a Slovak by birth, he became a champion of the national regeneration of his race, and the most zealous, if not the first, advocate of Pan-slavism, or of a union, literary and political, of all Slavic tribes. He developed this tendency in poetical works, written mostly in the Bohemian dialect, as well as in disquisitions on the antiquities of the Slavi. Among the former are his *Báseň* ("Poems," 1821); *Slavý dcera* ("The Daughter of Glory"), his most celebrated work; and *Narodnie spievanky* (a collection of Slovakian "Popular Songs"); among the latter, *Rozprawy o imenach* ("Treatises on the Names" of the ancient Slavi); *Slava bohyni* ("Goddess Slava"); "On the Literary Relation of the Slavic Tribes and Dialects" (in German); *Cestopis* ("A Journey" for antiquarian purposes to northern Italy); and "Ancient Slavic Italy," a work in German, which he left in manuscript. In 1849 he was made professor of archæology at the university of Vienna.

KOLLER, FRANZ, baron von, an Austrian general, born in Münchengrätz, Bohemia, Nov. 27, 1767, died in Naples, Jan. 25, 1826. He entered the army in 1785, rose gradually to the rank of lieutenant field marshal, and in 1814 was one of the commissioners who accompanied Napoleon to Elba. At one time he changed uniforms with Napoleon in order to incur himself whatever injury or insult might be offered to the latter, and kept to the end of his life the gray coat of the emperor. In 1821 he commanded an army sent to Naples to repress the revolution. He cultivated literature and art, and left a collection of antique vases obtained in Naples, which was subsequently purchased by the king of Prussia for the museum of Berlin.

KÖLLIKER, ALBRECHT, a German physiologist,

ogist, born about 1818. He is distinguished in the scientific world for his microscopic researches into the economy of the human frame, and holds the position of professor of anatomy and physiology in the university of Würzburg. Among his earlier papers are those on the reproductive organs and fluid of invertebrate animals, published in Valentine's *Repertorium* for 1841; on the origin of the ovum in insects, and a comparison between the development of this organ in articulate animals and vertebrata (1842); on the development of the *cephalopoda* (1844); and on the contractile cells of the embryo of *planaria* (1846). In 1850-'52 appeared in two parts the first volume of an elaborate work on the "Microscopic Anatomy or Histology of the Human Body," in which were embodied the results of many years of observation with the microscope. As it was of too comprehensive a character for the use of students, he published in 1852 a complete manual on the subject, entitled *Handbuch der Gewebelehre des Menschen* (8vo., 848 woodcuts), which has been translated into English and published by the Sydenham society. By this publication he has established his rank as one of the first of living histologists. Among his more recent papers are a number on the structure of the lower animals.

KOLLONTAJ, Hugo, a Polish statesman and author, born in the palatinate of Sandomir, April 1, 1750, died in Warsaw, Feb. 28, 1812. He studied at Pinczow and Cracow, chose the ecclesiastical career, visited Rome, and after his return became canon of the cathedral of Cracow. Soon after he was appointed a member of the committee of public education organized at Warsaw by Stanislas Augustus Poniatowski, the last king of Poland. He was subsequently active in reorganizing the university of Cracow, and in 1782 was elected its rector; but he lost the office two years afterward in consequence of his reformatory tendencies, which provoked the hostility of the party friendly to the ancient rule of the Jesuits. He returned to Warsaw, and his zeal, eloquence, knowledge, and ability soon made him one of the principal actors in the grand political drama which ended with the final fall of Poland in 1794. He rose to the dignity of vice-chancellor of the crown, which he held during the deliberations of the long diet, and was in every way active in bringing about the liberal constitution of May 3, 1791. When the confederation of Targovitz, which was formed against it by the defenders of the *liberum veto* and other constitutional privileges of the nobility, became triumphant with the aid of Russian bayonets, he retired to Dresden, and his estates were confiscated. He returned to Poland in 1794 to share the dangers in the rising under Kosciuszko, and was intrusted with the direction of the finances. After the fall of Warsaw, while seeking refuge in flight, he was arrested by the Austrians, and imprisoned in Olmütz, sharing the dungeons of that fortress with Lafayette, though separated from him, but was finally re-

leased at the intercession of the emperor Alexander I. in 1803. His possessions, however, were not restored to him, and he lived in retirement in Volhynia, until the creation of the duchy of Warsaw by Napoleon, in 1807, recalled him to the scenes of his former activity. He spent his last years alternately at Warsaw and Cracow. As a patriot Kollontaj ranks among the most admired and most abused of his nation. By his adversaries he was called the Robespierre of Poland. His writings, mostly anonymous, are marked by vigor, eloquence, and sublimity of ideas. Among them are: "Letters on School Reform;" "Letters to S. N. Malachowski, Marshal of the Diet, on the Reforms Necessary in the State;" "Remarks on the Hereditary Succession to the Throne;" "Speeches made at the Diet of Warsaw;" and "Political Law of the Polish Nation." After his death were published *Stan owiecznia* ("Condition of Public Education," Posen, 1842), and *Badania historyczne* ("Historical Researches," Cracow, 1844). The celebrated work on the "Formation and Fall of the Constitution of May 3, 1791," which appeared in German and French, was his only in part.

KOLOWRAT, an ancient family of Bohemia, many members of which have held high positions in church and state. Its present representative, Count FRANZ ANTON, born Jan. 31, 1778, became a member of the Austrian cabinet in 1826, and favored a comparatively liberal policy, especially after the advent of Ferdinand to the throne. Since the revolution of 1848 he has retired from public affairs. He is the founder of the national museum in Prague, and has taken an active interest in the promotion of the material and intellectual welfare of his country. The national literature of Bohemia is especially indebted to him for great encouragement.

KONG, a mountain range of W. Africa, running E. and W. nearly parallel with the coast, on the N. frontier of Upper Guinea, and terminating on the Atlantic in a number of promontories, the principal of which are Capes Verga and Sierra Leone. Its E. termination is not defined. Mr. Du Chaillu extends the name to the mountains which, connecting with those just described near the river Niger, extend southward, in a direction generally parallel to the coast of Lower Guinea, and send off several branches toward the sea. One of these ramifications extends from near Fernando Po island to the river Muni in lat. 1° 2' N., and then turning inland rejoins the main range; it is known as the Sierra del Crystal. Further inland, according to the traveller already mentioned, another offset called the Nkoomoo-Naboualee mountains runs E. and W. The Kong mountains are very imperfectly known. The W. division does not exceed 2,500 feet in average height, but in some places is believed to reach the limit of perpetual snow. Mt. Loma, on the S. W. frontier of Soodan, the supposed source of the Niger, is about 1,600 feet above the sea. Granite, marble, and limestone are the prevailing rocks.

KONIEH, **KONTA**, or **COGNI** (anc. *Iconium*), a city of Asia Minor, capital of the eyalet of Caramania, in lat. $37^{\circ} 54' N.$, long. $32^{\circ} 40' E.$, 27 m. E. by S. from Smyrna; pop. about 20,000. The stout walls which surround it were built from the ruins of the ancient city by the Seljookian sovereigns, and display some interesting Greek inscriptions and other relics, which were so arranged in the mason-work as to remain visible. Of more than 100 mosques which the city contains, 12 are large, and 2 are much admired for their magnificence. It has also several *medreses* or colleges, and the tomb of Hazret Mevlana, a Mussulman saint much revered throughout Turkey and the founder of the Mevlana dervishes. This tomb is a goal of pilgrimage for devotees; it is conspicuous by its bright green cylindrical tower and surmounted by a dome. Konieh, however, is in a state of decay, and its houses are little more than huts of sun-dried bricks. Its only manufactures are carpets and blue and yellow leather, and its trade is inconsiderable.—The ancient Iconium, which is mentioned by Xenophon, Cicero, and Strabo, and in the history of the apostles, was the capital of Lycaonia, but rose to importance only after the taking of Nicæa by the crusaders. The Seljookian sovereigns of Roum made it their capital about the beginning of the 12th century; Frederic Barbarossa assaulted it in 1190; the sons of Genghis Khan subsequently became masters of it; and Bajazet II. made it the capital of Caramania in 1486. Ibrahim Pasha won here a decisive victory over the Turks in Dec. 1832.

KÖNIG, FRIEDRICH, a German inventor, born in Eisleben, April 17, 1775, died Jan. 17, 1833. He learned the business of a printer under Breitkopf in Leipzig, studied at the university of that city, and went in 1806 to London, where he invented an improved press. He obtained a contract for manufacturing two for the London "Times," and the machine was so successful that the number for Nov. 28, 1814, was worked by it at the rate of 1,100 impressions per hour. König afterward introduced, with the help of another German named Bauer, several improvements into this press. He also invented a machine for printing both sides of a sheet simultaneously, but this was so complicated and clumsy as to be useless. He established himself with Bauer at Oberzell, whence they sent presses to all parts of Europe.

KÖNIGSBERG, a fortified city of Prussia, capital of a government and circle of the same name, second capital of the kingdom, and formerly the capital of Prussia proper, situated on the river Pregel, 5 m. from its mouth, in lat. $54^{\circ} 24' 8'' N.$, long. $20^{\circ} 30' 2'' E.$, 850 m. by railway from Berlin; pop. in 1858, 80,000, of whom 2,500 were Roman Catholics, and 1,500 Jews. The city consists of the town proper and 4 suburbs, the former being subdivided into the Altstadt on the W., Löbenicht on the E., both lying high, and the Kneiphof, a swampy island in the Pregel. The city possesses 21 churches,

a synagogue, an exchange, a city hall, a theatre, 2 theological seminaries, 8 gymnasia, schools of all branches of fine arts, science, industry, and commerce, 6 hospitals, deaf, dumb, and blind asylums, with many other charitable institutions, and a public library of 150,000 volumes. The most imposing public building is the cathedral, an interesting Gothic structure, in which the religious service of the Reformed church was inaugurated in 1528. In a porch outside of the cathedral rest the remains of Kant, who was a native of Königsberg. The Schloss, or palace, now used for government offices, was once the residence of the grand masters of the Teutonic order, by whom the city was founded in 1257, and also of the electors of Brandenburg. The university, founded in 1544 by the margrave Albert, and hence called the Albertine university, was in a prosperous condition in the 16th century, when the attendance of students, which is now only 800, was nearly 2,000. It has a library of 50,000 volumes, including several manuscripts of Luther's, 5 clinical schools, a botanic garden, and a celebrated observatory under the direction of Bessel until his death in 1846, and containing one of the finest meridian globes in the world, prepared by Reichenbach. The first rector of the university was Georg Sabinus, the son-in-law of Melancthon. It became celebrated as the place where the philosophy of Kant was first propounded. Beside Kant, the names of Hamann, Hippel, Herder, Fichte, Herbart, and Jacobi are associated with the institution. Its 800th anniversary was celebrated in 1844, and the foundation stone for new university buildings was laid Aug. 8, 1851. The city has been strongly fortified since 1843, on the plan of detached forts, and is destined by the government to become one of the greatest fortresses of Prussia. Pillau is its port. A considerable trade is carried on, mostly with Great Britain, the exports being breadstuffs, flax, hemp, oil seeds, bones, timber, &c.; the imports, colonial produce, iron, coal, cotton, and raw sugars. Its manufactures are textile fabrics, soap, leather, and starch. Sugar and silver refining, brewing, and distilling are carried on. Much amber was formerly found, but the production has fallen off. The sturgeon fishery is of importance. The annual entrances and clearances average collectively 2,400 vessels. The shipping owned by the port in 1859 comprised 21 sailing vessels, 2 ocean and 5 river steamers.

KÖNIGSMARK, PHILIP CHRISTOPHER, count of, a Swede famous for his adventures and tragical end, born about 1640, killed July 1, 1694. While a colonel in the Swedish service he came to the court of Hanover in 1692. The prince elector (subsequently George I. of England) had married his cousin Sophia Dorothea, daughter of the duke of Zell, a princess celebrated for her beauty. Alienated from her husband by his gloomy and jealous character, Sophia was naturally attracted by the friendship of Königsmark, whom she had known when young, and gladly availed herself of his offer to aid her to

fly from the court of Hanover, where she was most unkindly treated, to France. Their interviews were watched, and one evening on quitting her he was assassinated by order of the elector. Dr. Doran, in his "Lives of the Queens of the House of Hanover" (London, 1855), endeavors to exonerate the princess from a guilty love for the gallant Swede; but the fact of its existence is established by the letters which she exchanged with him, published in Leipsic in 1847. Their love story was dramatized by Michel Masson in 1856, under the title of *Aimer et mourir*.—MARIE AURORA, sister of the preceding, born probably in Stade in 1670, died in Quedlinburg, Feb. 16, 1728. She was an orphan, and went while yet a young girl to Dresden, hoping to recover by royal intervention her property, which was kept from her by Hamburg bankers. Frederic Augustus, the elector and future king of Poland, after a long courtship, obtained her as his mistress, and by him she became mother of the celebrated Maurice of Saxony. She died in poverty, leaving 52 crowns to her son. "Her beauty, her wit, her grace, united to very remarkable acquisitions in learning and science, induced Voltaire to term her the most celebrated woman of two centuries." She left in MS. a number of dramatic pieces and poems. The memorable incidents of her life were published in Leipsic in 1836, and a full biography in 1848.

KOODOO. See ANTELOPE.

KOOM, or KUM, a Persian town, capital of a government of the same name in the province of Central Irak, 80 m. from Teheran. It is important from its situation on the high road between the N. and S. extremities of the country, merchandize destined for the south from Kasbin and northward, or such as comes from the south to any of these parts, being conveyed by the more direct road between that town and Koom instead of being carried to Teheran. Anciently it was a place of great magnificence, and had a population of 100,000; the number in modern times has been as low as 6,000. Mr. Abbot, English consul at Teheran, who visited the place in 1849 and 1850, was told by the governor of Koom that the population was gradually increasing, the number then being 12,000, not including the many strangers and temporary residents, who swell it to 20,000. Portions of the town are in ruins, it having been destroyed by the Afghans when they invaded Persia in the early part of the 18th century. The bazaars are numerous and extensive, containing about 400 shops, of which nearly 40 are appropriated chiefly to the sale of Manchester goods. There are about 20 caravansaries, and manufactures of China ware of inferior quality, of pottery, and of jars for cooling water, which are much esteemed. The town is supposed to occupy the site of the ancient Choana, and to have been built in the year of the Hegira 203, from the ruins of 7 towns, which composed a small sovereignty under an Arabic prince.

KOOR, or KUZ (anc. *Cyrus*), a river of the Russian province of Georgia, which rises in the Saghanloo mountains, in the Asiatic-Turkish province of Akhalzikh, near the confines of Erzerum. It flows N. E. into Georgia until it approaches the S. base of the Caucasus, when it turns E. S. E. and runs nearly parallel with that range to the Caspian sea, which it enters by 3 mouths 100 m. S. S. W. from Bakoo. Its length is about 880 m., and it is navigable 66 m. from its mouth by small vessels. Its banks are high, and except near its mouth well wooded. Its waters are yellowish and turbid, and the current, though smooth, is rapid. Its principal affluents are the Aras, Alazan, and Yora.

KOORDISTAN, or KURDISTAN ("the country of the Koords"), an extensive region of western Asia, comprised chiefly within the basin of the Tigris, between lat. 34° and 39° N., long. 42° and 47° E., and belonging partly to Turkey, partly to Persia; area about 40,000 sq. m.; pop. estimated at 3,000,000. Its limits are not well defined. Persian Koordistan is comprised chiefly in the province of Irak-Ajemea, and the Turkish in the eyalet or province of Koordistan. The geographical features of the northern and southern portions of the country are dissimilar. Mountain ranges from 3,000 to 13,000 feet in height, and many of the peaks covered with snow during 6 months in the year, occupy the north, breaking the surface into deep, narrow valleys, and rugged table-lands, of which the most extensive is the plateau of Ali-Bagh along the Armenian frontier. With the exception of 3 ranges of hills of no great altitude, the southern portion of the territory is low and level. The principal rivers are the Tigris, Zab Ala, Zab Asfel, and Dialeh, the first receiving the waters of all the others. There are several lakes, of which the most considerable are Van and Ooroomiah. The soil is exuberantly fertile. The climate ranges from extreme heat to extreme cold; the winters in N. Koordistan are very severe, and the summers in the S. localities are attended by an equally intense heat. The country has but little mineral wealth, although alum, sulphur, and iron are found, and there are a number of salt springs. Forests of oak, walnut, and other hard woods clothe the mountains; grains of all kinds, tobacco, flax, and hemp, with the usual fruits of temperate climates, thrive on the plains. Mulberry trees, for silkworms, are cultivated. Cotton is found to succeed in certain localities. A remarkable vegetable production is found here, answering in most respects to the manna which fed the children of Israel in the wilderness; it is collected from leaves of trees and occasionally from the ground, and is dried, pounded, and eaten as a sweetmeat. The gigantic rose is a floral production peculiar to the locality. Vegetables of all kinds, especially melons and cucumbers, grow to extraordinary size. Honey is produced largely. Medicinal plants, especially gall nuts of superior quality, are largely exported, *via* Iskanderoon and Smyrna. Agriculture employs

little attention or skill. Flocks and herds constitute the wealth of the inhabitants. The horses are small, but capable of great endurance, and are much in demand for the Turkish and Persian cavalry. They are worked under the saddle only, oxen being the beasts of draught. Camels are little used, owing to the broken nature of the ground. Sheep of a long-tailed breed, with wool of the most delicate fibre, comprise the bulk of the live stock. The principal wild animals are the panther, bear, lynx, jackal, hyæna, and fox. Many varieties of game abound.—Turkish Koordistan begins on the W. side of the great mountain range which stretches from Mount Ararat in a S. S. E. direction, and now divides the Turkish and Persian empires. The province is administered by a governor-general (in 1860, Mahmud Pasha), whose seat is at the capital, Diarbekir. During the last 20 years the Turkish government has been slowly reducing the Koords to submission, in which they have been much aided by the dissensions among the native chiefs.—The inhabitants are descendants of the ancient Carduchi (see CARDUCHI), through whose territory Xenophon led the retreat of the 10,000. Their complexion is light, and their physiognomy animated. Sharp but delicate features, an ample and open forehead, deep-set, dark, and intelligent eyes, a finely cut mouth shaded by a moustache, good teeth, small and handsomely shaped hands and feet, and a well proportioned frame, give to the Koords a remarkable elegance of person; while their active habits impart a strength of body which renders them physically one of the finest people of Asia. They are good horsemen, expert in the use of arms, adventurous and daring, inclined somewhat to brigandage, but hospitable. The young women are very beautiful, but the shrivelled look of age comes upon them when they have scarcely reached the period of mid-life. The national costume resembles that of the Turks. The men wear a cloak of black goats' hair, and a red cap around which is wound a silk shawl falling down upon the shoulders. Only the aged wear beards. The women, except a few of the highest rank, do not veil; they are treated with more respect than in most eastern countries; their principal source of amusement is music, while the diversions of the men consist almost entirely of warlike exercises and story telling. The cultivators form a totally distinct class from the warlike tribes, who look down upon them with contempt and use them brutally. The stationary part of the population live principally in small villages scattered over the hills, beside which however there are several considerable towns, the most important of which is Kermanshah. The tents of the wandering tribes are of black cloth divided into two apartments, one of which is set apart for the women. A fence of hurdles surrounds the tent, and the horses are picketed within the ring.—In religion the majority of the people profess to be Mohammedans of the sect of Omar, but their creed is tinged with remnants of

the old Manichæan and Magian systems, and they have many superstitious practices not sanctioned by the Koran. About 100,000 are Nestorian Christians, locally known as Kaldani, and governed by two patriarchs, one of whom has 5 suffragan bishops and the other 18. The episcopal dignity is hereditary, descending from uncle to nephew. Bishops are often consecrated at the age of 18. The inferior clergy are generally very ignorant, although what little learning there is among the Kaldani is confined to ecclesiastics. These Christians inhabit the valley of the Tigris and the mountains which skirt it on the E. They are independent and warlike. There is a church and priest in each of their villages.—The Koords have belonged successively to the Assyrian, old Persian, Parthian, new Persian, Saracenic, and Mogul empires. They are now nominally subject to Persia and Turkey, yet pay little or no obedience to either state, and until recently nominated their own beys and pashas.

KOORILE (or KURILE) ISLANDS, a chain of small islands in the Pacific ocean, extending from the S. extremity of Kamtschatka to Yesso, the northernmost of the Japanese islands; they lie between lat. 42° and 51° N., and long. 145° and 156° E., are 25 in number, and reach over a space of more than 700 m. in length; pop. about 1,400. They are divided into the Great Kooriles, which belong to Japan, and the Little Kooriles, which are subject to Russia. The largest of the former are Kunashir, Iturup, and Urup; of the latter, Lumshu, Paramushir, and Onokotan. The surface of these islands is very irregular; in some there are mountains whose summits tower over 6,000 feet above the level of the ocean. Alexander von Humboldt in his "Cosmos" says: "The range of the Koorile islands from the extreme point of Kamtschatka to Cape Broughton (the northernmost promontory of Yesso), in a longitudinal space of 720 geographical miles, exhibits from 8 to 10 volcanoes, still for the most part in a state of ignition. The northernmost of them, on the island of Alaid, known for its great eruptions in the years 1770 and 1793, is well worthy of being accurately measured, its height being calculated at from 12,000 to 15,000 feet." The shores are in general rocky and precipitous, and, in consequence of the violent currents which prevail around them, very difficult of access. Several of the Kooriles are uninhabited, and several uninhabitable for want of water; but many are fertile, well wooded, and produce game and fish in abundance. The climate is tempestuous, severe, and foggy. The vegetable productions are few and unimportant. The principal animals are bears, wolves, foxes, saibles, otters, seals, and fowl. The chief commerce is carried on with China and Japan. The minerals are iron, sulphur, and copper. The people are in general of low stature, dark complexion, and more hairy than the other races of E. Asia. Their habits are excessively filthy, but their disposition is honest and gentle. In manners and customs the

northern islanders resemble the Kamtschadales; the southern, who are termed Ainus, to some extent, the Japanese. (See *AINUS*.)

KOORSK, or KURSK, a government of European Russia, bounded N. by Orel, E. by Voronej, S. by Pultowa and Kharkov, and W. by Tchernigov; area, 17,818 sq. m.; pop. in 1856, 1,886,949. The surface is in general undulating, the climate mild and dry, and the soil fertile. The most valuable minerals are iron, limestone, and nitre. The manufactures consist of coarse cloths, leather, soap, spirits, and earthenware.—Koursk, the capital, is situated on the Tuskara, a tributary of the Don, 280 m. S.W. from Moscow; pop. about 81,000. It is a large town, with narrow, dirty, and ill paved streets, and no remarkable buildings. It carries on a considerable trade with St. Petersburg and Moscow, and is the seat of the civil and military governors of the province, and of the archbishop of Koursk and Bielgorod.

KÖPPEN, FRIEDRICH, a German philosopher, born in Lübeck, April 21, 1775. The son of a Protestant clergyman, he studied theology at Jena, where the lectures of Reinhold and Fichte interested him in philosophical speculations. He remained one year in Göttingen, where he wrote an *Abhandlung über Offenbarung, in Beziehung auf Kant'sche und Fichte'sche Philosophie* (1797), and afterward travelled in Switzerland. His friendship for Jacobi and sympathy with his doctrines occasioned his polemical work *Schelling's Lehre, oder das Ganze der Philosophie des absoluten Nichts* (1808). From 1804 to 1807 he was a Lutheran minister at Bremen, was afterward for 20 years professor of philosophy at Landsbut, and in 1827 received the corresponding professorship at Erlangen. An earnest disciple of Jacobi, the special aim of his writings is to harmonize Christian and Platonic doctrines in philosophy. Among his principal works are: *Darstellung des Wesens der Philosophie* (1810); *Philosophie des Christenthums* (1813-'15); *Politik nach Platonischen Grundsätzen, mit Anwendung auf unsere Zeit* (1818); *Vertraute Briefe über Bücher und Welt* (1820-'23); and *Philosophie der Philosophie* (1840).

KORAN, or ALKORAN (the Koran, what is read, reading; from *qara*, he read, gathered), the sacred book of the Mohammedan religion, the code regulating all ethical, civil, political, criminal, and military concerns of the Moslems, and at the same time the chief literary treasure of the Arabic language. It is also honored by the following names: *D'ibr*, remembrance, admonition, praise, nobleness; *Furqân*, evident argument, distinction of good from evil, of truth from falsehood; *Al-Hudâ*, the true religion, right direction; *Kitâb (Kutub)*, scripture, book, commentary (with the epithets *Allah*, of God, *'Azîz*, excellent); *Qalam-Sherîf (qalam-us nobilis)*, sacred writing; *Mushaf*, code; *Tenzîl* (descended), heavenly revelation. In size it is about equal to the New Testament. It is divided into 114 *sûras* or chapters, each having a title which states its argument, or beginning

with some word contained within the argument, or with an initial letter of such word, declaring also that it was revealed either at Mecca or at Medina, and indicating the number of verses in the chapter; these peculiarities vary, however, in different editions. This introduction is followed by the formula: *Bi-sm-illahi er-rahmani er-rahimi*—"In the name of the God of pity and mercy." After these words, 29 *sûras* contain letters from which they are severally entitled; as for instance, the 50th is called *Sûra Kuf*; these letters are variously interpreted according to the Jewish Cabala. The *sûras* are divided into *âyats* (signs or miracles), since each contains something wonderful, or into verses. The number of these varies from 400 to 500 in each; those at the beginning of the book are long, those toward the end are short. For the purpose of recitation in the mosques the Koran is divided into 30 *adja's* or parts, or into 60 *asads* or sections, each of 4 portions; and the whole is daily read by 80 *mugris* or readers, appointed on account of their learning.—Mohammed began his revelations at the age of 40 (A. D. 610), and continued them during 28 years amid many vicissitudes. There is, therefore, very little connection between the *sûras*, or even between the verses of each *sûra*; as they were often promulgated merely by word of mouth, and recorded in the memory of his disciples, before being written down. Hence, according to the different occasions on which they were delivered, they contain dogmas, dialogues with Allah (God), narrations, praises of Allah and of Mohammed, rules of conduct for individuals and for society at large, admonitions, defences of the prophet's doctrines, promises, refutations of slanders, encouragements to the faithful, and threats, all without any systematic arrangement. The sources of these lucubrations were, beside the invention of Mohammed himself, the ancient traditions of the Arabs, the writings of the ancient Hebrews, the Talmud and Midrash of the later Jews, the Christian New Testament, together with the writings considered as apocryphal, the so-called *prot-evangelia*, and some tenets of the Magi. Many of these elements are modified in various ways; they are sometimes perverted altogether, and are especially affected by anachronisms. Details on these points may be found in the works of Geiger, *Was hat Mohammed aus dem Judenthum aufgenommen?* (Bonn, 1833), and Gerok, *Versuch einer Christologie des Koran* (Hamburg, 1839).—Concerning the mode in which the Koran was written, there are very different opinions among its votaries as well as among its adversaries. According to the former, the mission of the prophet was predicted in the Old Testament, which, they hold, was falsified by the Jews. The first Tenzil, written on the *Lauh* (broad table of wood or bone, shoulder blade with writing on it) *el Mahruh* (the preferred), was brought from the 7th heaven to the lowest lunar heaven, in the "night the predestined" (*leilet el qadr*), by the archangel Gabriel, the

74th and 96th suras before the others. Afterward Mohammed received portions at different times, at Mecca and subsequently at Medina. A kind of Lord's prayer, being universal, forms the *Fatihah* (exordium, opening) or first sura. The several portions were either written down, at the prophet's dictation, on skins, the shoulder blades of sheep, or on palm leaves, or were merely remembered. Gabriel is said to have pointed out their arrangement, and the collection was preserved in the ark of the doctrine. Mohammed examined the Tenzil (written on the skin of the ram which Abraham had sacrificed instead of his son Isaac, bound in silk and adorned with gold and jewels from paradise) every year, and inspected it twice in the year of his demise. Such is the belief of the faithful, who however do not agree on all the traditions. It is claimed by various sects, but not proved, that several persons assisted Mohammed in writing *Al-Kitab-Allah*, viz.: Abdallah ben Selam and Verka, both rabbis; Emir ben el Hadjraim, a Greek slave; Habar and Yasir, swordsmiths at Mecca; Ayish, a bookseller; Kaish, a monk; Sergius, a Nestorian monk; Saïd ben Yanas ben Abd ez-Zalibi, a Nestorian abbot at Bassorah, and a friend of Mohammed from his youth; Selman, a baptized Magus, &c. Many *as'habs* or disciples of the prophet having been slain in the battle of Yemama, Abubekr (his father-in-law and the first caliph), acting by the advice of Ali, ordered Zeïd ben T'abit to collect in writing all those portions of the revelation which the surviving hearers of the prophet remembered, and intrusted the whole of the work to Haffa, one of his widows. As the divergence in the copies of the Koran caused disputes, especially between the Moslems of Syria and Irak, Othman, the 3d caliph, aided by the *as'habs*, elaborated 7 new copies at Medina, and sent 6 of them to the cities of Mecca, Yemen, Damascus, Bahrein, Bassorah, and Cufa, burned the varying copies as apocryphal, and was hence surnamed *Jami el Koran*, collector of the Koran. Later there appeared other copies varying in the reading, division and number of verses, of which two of Medina, those of Mecca, Cufa, Bassorah, and the so called *Vulgata*, are especially worthy of notice. A Koranic Masora, similar to the rabbinic, counts 6,000 or 6,236 verses, 76,639 or 99,464 words, and 823,015 or 880,113 letters in the Koran. The most renowned interpreter of the Koran was Beidhavi, who lived in the 15th century.—The dialect of the Koran, being the purest *Koraishî al-lisânu* (Koran language), ennobled the Arabian language. The system of writing, derived from the Syrian, had been adopted in the towns of Hira and Anbari, and hence by the Koreish tribe, shortly before the prophet, who called himself *Nabi Ommy*, illiterate prophet, because he learned to write late in life. The first copies of the Koran lacked diacritic signs, and hence arose various readings before Othman. Many words were differently read even during Mohammed's lifetime. There are no diacritic signs in many Cufic copies. When the Ko-

ran was diffused beyond the bounds of Arabia, it became necessary to add vowel signs. The diacritics were lines at first, written with pale black ink, and the vowels were marked in red. From the necessity of preserving the true reading among foreigners arose the Arabic grammar. The language of the Koran is peculiar in many respects; it is often abrupt, often rough, full of rare forms, has a poetic style, the last verses sometimes rhyming, is full of allusions to past and contemporary events; is highly allegorical, sometimes oracular and mystic; and contains many anacolutha, reticences, permutations, and insensible transitions, especially in the colloquies with Allah. Its graphic style is also inconsistent with strict rules, and more compendious than that used in common transactions. Superstitious veneration has opposed many improvements both in the phraseology and in the writing; hence have arisen various sects, and quarrels among interpreters and grammarians. We know of no original copy of Mecca or Medina. Soon, after the conquest of Irak, Mesopotamia, and Syria, the Koran was copied at Bassorah and Cufa, so beautifully that the older copies were soon forgotten. More slender characters were brought into common use at Bagdad, and much later were introduced into the Koran by the vizier Abu-Ali Mohanmed ben Ali ben Hasan Ibn-Mokla, who, although he had copied it thrice, was condemned to the loss of his right hand. His style, on being improved, became the *Naskhî* or copy-script of modern times, in which the Koran is printed.—The reading of the Koran is regarded by Mohammedans as a most pious work in itself. It must be read with great precision, and those parts and passages at which the reader must incline or prostrate himself, or perform other ceremonies, are noted on the margin. Parts of it are employed as prayers, especially the *Fatihah*. The reading of some passages is used as a specific remedy in certain diseases or misfortunes, as the *'asitun* or enchantment. The copies of the holy book are kept with the greatest veneration, and their envelope often contains the inscription: "Let none but the pure touch it."—There are probably manuscript Korans of the age of Othman and Ali at Constantinople, Damascus, and Cairo; there are some portions dating from the 1st century of the Hegira at Copenhagen. There are printed editions by Alex. Pagnini Brixiensis (Venice, 1509 or 1518, burnt by order of Clement VII.); Abr. Hinkelmann (Hamburg, 1694), the oldest now known; Mollah Usman Ismael (St. Petersburg, 1787), with valuable marginal notes; G. Flügel (Leipsic, 1835), revised by Redslob (1837 and 1842). The following are editions of the original with versions: *Musih-i Koran*, with a Hindostanee interlinear version and notes, by Maulana Shah Abdel Kader, Calcutta, 1829-'32; with an English version, Serampore, 1833, and Persian commentaries, Calcutta, 1837. There is an English translation by Alexander Ross (London, 1649); the best is by G. Sale (2 vols., London, 1734; often reprinted).—For the teach-

ings and dogmas of the Koran, see **MOHAMMEDANISM**.

KORDOFAN, a country of E. Africa, subject to the sovereign of Egypt, lying between lat 12° 30' and 15° 30' N., long. 29° 30' and 31° 30' E., bounded N. and W. by Nubia and Darfoor, E. by Sennaar, and S. by the Deir or Tuggala mountains; pop. estimated at 400,000. The surface is in general level, but in the S. W. and extreme N. it is rather mountainous. There are no permanent rivers, though several small lakes exist in different parts of the country. The climate is very unhealthy in the rainy season, and in the dry season intolerably hot; hurricanes are frequent. The soil is naturally fertile. In the wet season the earth is covered with a luxuriant vegetation, but during the drought every thing is burned up. The population of Kordofan consists of negroes, Arabs, and emigrants from Dongola. This country was conquered by Mehemet Ali in 1820. Capital, Obeid, or El Obeid.

KÖRNER, KARL THEODOR, commonly called Theodor, a German poet, born in Dresden, Sept. 23, 1791, killed in the engagement of Rosenberg, Aug. 26, 1813. His father intended him for scientific pursuits, and sent him to the mining academy of Freiberg; but he early displayed a strong taste for poetry, and pursued his studies in the universities of Leipzig, Berlin, and Vienna. Inspired by Schiller, who was an intimate friend of his father, he published in the latter city his dramas of *Toni and Hedwig* and the tragedies of *Zriny* and *Rosamunda*, the latter being a beautiful dramatization of the love story of Rosamund and Henry of England. In 1810 he published his first volume of poetry under the title of *Knoepen*, or "Buds," and afterward was appointed secretary to the theatre in Vienna. The great German "war of freedom" against Napoleon inspired Körner not only to brave actions, but also to write poetry of a far better character and quality than any thing to be found in his earlier efforts. At Breslau he was enrolled among the "black huntsmen" of Lützow (March, 1813), with whom he entered Saxony. His great bravery soon gave him a reputation and the rank of lieutenant. He was wounded at the battle of Bautzen, but had barely recovered before he was again in action. It was during this exciting life that he wrote those patriotic songs which, accompanied by the music of Weber, have since become so well known to the world. During the night of Aug. 25, 1813, while waiting in a wood to attack a small detachment of French troops, he wrote his celebrated *Schwerdtlied*, or "Sword Song." At 7 o'clock on the morning of the 26th, Lützow saw and attacked the French, who took refuge in the wood while Körner pursued them. Between the fires of his own men and the enemy he was mortally wounded. His friends gathered around him, but he was speechless, and died in a few minutes. His corpse was crowned with oak leaves and buried beneath an old oak, near the village of Wöbbelin. Near the spot is now placed a

fine monument of iron, designed by the architect Thormeyer, which has become a place of great resort for visitors. A selection of his battle songs was prepared by his father and published under the title of *Leier und Schwert* (Berlin, 1814; 8th ed. 1848). His complete works were published by the direction of his mother, and edited by Streckfuss (4 vols., Berlin, 1838; 4th ed. 1853). His "Life, written by his Father, with his Selections from his Poems, Tales, and Dramas," translated from the German by G. F. Richardson, appeared in London in 1845.

KOSCIUSKO, a N. co. of Ind., drained by Tippecanoe river; area, 567 sq. m.; pop. in 1850, 10,243. The surface is undulating and the soil mostly productive. The face of the county is diversified with several lakes and prairies. The productions in 1850 were 841,556 bushels of Indian corn, 117,918 of wheat, 78,092 of oats, 4,888 tons of hay, and 28,540 lbs. of wool. There were 6 grist mills, 6 saw mills, 2 newspaper offices, 9 churches, and 2,451 pupils attending public schools. The Pittsburg, Fort Wayne, and Chicago railroad passes through Warsaw, the capital.

KOSCIUSKO, MOUNT. See **AUSTRALIA**, vol. ii. p. 375.

KOSCIUSZKO, TADEUSZ (THADDEUS), a Polish patriot, born about 1755, died in Solenre, Switzerland, Oct. 16, 1817. He was descended from a noble Lithuanian family. He studied with distinction at the military academy of Warsaw, was made an officer of the corps of cadets, and was one of four selected to travel at the expense of the state. Through the friendship of Prince Adam Czartoryski, who early perceived his merit, he remained several years in France, devoted to a variety of studies. On his return to Poland he entered the army, and soon rose to the rank of captain. An unhappy and unrequited passion for the daughter of the marshal of Lithuania, one of the highest Polish officers of state, induced him to leave home, and he embarked for America to offer his sword to the patriots. Several other Poles, who had fought in the civil wars of their own country, had already crossed the ocean for the same purpose. The number of foreign auxiliary officers had become indeed somewhat oppressively great, if we may judge from Washington's complaint to congress (Oct. 1776) of the number of French gentlemen whom, from their ignorance of English, he was unable to employ. The accomplished Kosciuszko, however, received almost immediately a commission as an officer of engineers, Oct. 18, 1776, and, without having yet become personally known to the commander-in-chief, who mentions him as a "gentleman of science and merit," repaired to his post with the troops under Gates. He planned the encampment and post of the army on the range of hills called Bemis heights, from which, after two well fought actions, Burgoyne found it impossible to dislodge the Americans, and from which he retreated accordingly to Saratoga. Kosci-

uszeko was subsequently the principal engineer in executing the works at West Point, and became one of the adjutants of Washington, under whom he served with distinction. From Franklin he received the most marked expressions of esteem and commendation. Finally he was honored with the public thanks of congress, and with the badge of the Cincinnati. At the end of the war he returned to Poland, where he lived several years in retirement. In 1789, when the Polish army was reorganized, he was appointed a major-general. He fought gallantly, in defence of the constitution of May 3, 1791, under Prince Poniatowski against the Russians, and particularly in the battle of Zielonoe (June 18, 1792), and in that of Dubienka (July 17). On the latter occasion, with but 4,000 men, he kept at bay 15,000 Russians for 6 hours. The post which he defended had been fortified in 24 hours. The patriots, however, were overwhelmed by enemies from without and by their aristocratic opponents within, who were finally joined by the weak king Stanislas Augustus himself. Russia and Prussia divided their spoils. Kosciuszko retired to Leipsic, where he received an invitation from the French government to become a citizen of France. He was bent, however, upon another effort for Poland. A rising of his countrymen was secretly planned, and Kosciuszko was unanimously elected their chief, his late commander, Prince Poniatowski, serving under him. Madalinski was the first to raise the banner of independence. Kosciuszko suddenly appeared at Cracow, March 24, 1794, issued a manifesto at once against the Russians, and, with a hastily collected host, armed mostly with scythes, advanced to meet the enemy. At Racławice (April 4) he routed with 5,000 men a Russian corps of twice that number, and returned in triumph to Cracow. Meanwhile the inhabitants of Warsaw rose against their Russian garrison, and, after a murderous conflict of 3 days, drove the survivors from the city. In various other parts the insurrection prospered with equal fortune, and the army of Kosciuszko received reinforcements from the Polish detachments which had been sent to the remote southern districts. Kosciuszko committed the conduct of government affairs to a national council organized by himself, and moved forward in quest of the imperial army. He unexpectedly found his march opposed by the king of Prussia, at the head of 40,000 men. Kosciuszko, whose force amounted to but 18,000, attacked him, June 6, 1794, at Szczekociny. From this place, after a long and bloody conflict, the Poles were compelled to fall back upon Warsaw, which during two months they held against continued and furious assaults. Cracow meanwhile was surrendered; and another Polish general lost a battle at Chelm. Disturbances arose also at Warsaw. The people murdered some disaffected Poles and a number of Russian prisoners, before Kosciuszko could interfere. He had one month before (May 29) renounced dictatorial power by the organization of a supreme national council,

into whose hands he consigned the extraordinary authority that had been conferred upon him. His power nevertheless, at least in the beleaguered city, was absolute; and in its exercise he rivalled his great American contemporary and late commander in the vigor and integrity of his conduct. The combined armies of Frederic William II. and Catharine, amounting to 50,000 men, after a succession of bloody conflicts, were compelled by the Polish chief to raise the siege. Austria came to the assistance of the baffled allies, and 150,000 enemies were now operating in the field. Against them Kosciuszko, with 20,000 regular troops and twice that number of undisciplined peasants, maintained himself until two Russian corps, under Suwaroff and Fersen, after ravaging Lithuania and defeating a Polish attack, effected a junction, and with overwhelming numbers came upon him at Maciejowice, Oct. 10. For many hours the Poles fought with unwavering fidelity. At length Kosciuszko, after repelling 8 distinct onsets, fell covered with wounds. In the act of falling from his horse, he uttered that well known prophetic lament: *Finis Poloniae*. He was taken by the Russians, and consigned to a prison in St. Petersburg. The 3d partition and entire annihilation of Poland was the consequence of the disaster at Maciejowice, which was soon followed by the storming of Praga. Kosciuszko, in his single person, had sustained the fortunes of the republic. His imprisonment was rigorously continued during two years, until the death of Catharine, when the emperor Paul, with characteristic opposition to most of his mother's personal measures, at once gave Kosciuszko his liberty, and attempted to load him with presents and marks of favor. The high-spirited Pole was resolved to accept nothing but his freedom. The czar, on releasing his prisoner, offered him his own sword. "I have no need of a sword," said Kosciuszko; "I have no country to defend." No sooner had he crossed the Russian frontier than he sent back to the czar the patent of his pension, and every testimonial of Russian favor. Henceforth his life was passed in retirement. In 1797 he visited the United States, and was received with great honor and distinction. His means were straitened; and upon Washington's explaining to him the manner in which a claim upon American bounty was to be preferred, he sought and obtained the relief which he had spurned at the hands of a Russian, congress making him a grant of land, in addition to a pension which he had received since the close of the war. Taking up his abode thereafter in France, he lived chiefly at a country place near Fontainebleau, passing his time in agricultural pursuits. In 1806 Napoleon, about to invade Poland, desired to make use of the patriot; but Kosciuszko, without a guaranty of Polish freedom, and penetrating the design of the French emperor, refused to lend himself to his purpose. When the allies approached Paris in 1814, Kosciuszko observed a Polish regiment committing

acts of pillage. Rushing forward and seeking out the officers, he upbraided them angrily for their conduct. "Who is he who dares to speak thus?" they exclaimed. "I am Kosciuszko," he replied. For 20 years his name had been heard by them but as that of a hapless exile. The effect of his appearance now was electric. Throwing down their arms, the soldiers prostrated themselves at his feet, and supplicated Kosciuszko's pardon. The emperor Alexander, who, in an audience subsequently, held him long in conversation, made him the most flattering promises. Kosciuszko repaired to Vienna, but after the battle of Waterloo he was strangely neglected, and soon left the seat of the great European congress. In 1816 he went to live in Switzerland, making his home at Soleure, whence in the following year he sent a deed of manumission to all the serfs upon his Polish estate. His death was caused by a fall from his horse over a precipice. His remains were removed by the emperor Alexander to the cathedral church of Cracow, where they repose by the side of Poniatowski and Sobieski. Near Cracow there is a mound of earth 150 feet high, which was raised to his memory by the people, supplies of earth being brought in contribution to the mass from every great battle field upon which Polish soldiers had shed their blood.

KOSEGARTEN, JOHANN GOTTFRIED LUDWIG, son of the poet Ludwig Theobald Kosegarten, a German orientalist, born at Altenkirchen, Sept. 10, 1792. He went to Paris in 1812 to study the oriental languages under Chézy and Silvestre de Sacy. On his return to Germany in 1816 he was appointed to the chair of oriental literature at Jena, which he exchanged in 1824 for the corresponding chair at Greifswalde. His principal works are an edition of the *Moallaka* of the Arabian poet Amru ben Kelthum (Jena, 1819); a German translation of the Indian poem *Nala* (Jena, 1820), and of *Tuti namah*, a collection of Persian tales, made in collaboration with Iken (Stuttgart, 1823); an account of Aharone ben Elihu's commentary on the Caraitic Pentateuch (Jena, 1824); remarks on the Egyptian text of a papyrus in the Minutoli collection at Berlin (Greifswalde, 1824); editions of the Arabian annals of Taberi (Greifswalde, 1831), of the collection of songs entitled *Kitab al Aghani* (Greifswalde, 1840), and of Indian fables entitled *Pantahatantra* (Bonn, 1848); and some important works on the history of Pomerania.

KOSSUTH, a N. co. of Iowa, drained by a branch of Des Moines river; area, 576 sq. m.; pop. in 1859, 510. It has an undulating surface and a fertile soil. The productions in 1859 were 10,863 bushels of Indian corn, 277 of wheat, 800 of oats, 4,526 of potatoes, and 1,500 tons of hay.

KOSSUTH, LAJOS (LOUIS), late governor of Hungary, born in the village of Monok, county of Zemplén, April 27, 1802. His family, originally of Slavic descent, were members of the Lutheran confession and noble. His father, a

patriotic and public-spirited lawyer, gave his children a liberal education. Lajos, the only son, received his first classical instruction in the gymnasium of the Piarists at Ujhely, the capital of his native county, studied subsequently at Eperies, and finally passed through a course of legal and philosophical studies at the college of Patak. The spirit which animated this last institution has almost always been one of opposition to the rule of Austria; patriotic remembrances were attached to the place itself and its environs, once the possession of Francis Rákóczy, the leader in the last and most successful of the long struggles waged by the Hungarian patriots for civil and religious liberty in the 17th and at the beginning of the 18th century. The 8 years' strife under Rákóczy had exhausted the nation; the mild reigns of Charles VI. and his daughter Maria Theresa had lulled the spirit of independence into slumber. But the unconstitutional sway of Joseph II. had rekindled the fire of patriotism, and the wars of France carried revolutionary ideas into every quarter of Europe. When Kossuth, who had received from his parents an enthusiastic nature and liberal sentiments, reached the age of manhood, Spain, Italy, and Greece were struggling for freedom; Francis, the ruler of the empire in which Hungary was lost, was through his minister Metternich the arbiter of despotism in Europe; at no great distance from Patak, Ypsilanti, the martyr of Hellenic liberty, pined in the dungeon of Munkács, and Hegyalja, to which both Ujhely and Patak belong, was a favorite resort of patriotic Poles who were secretly preparing to throw off the triple yoke of their country. Kossuth was well read in history, and spoke with almost equal fluency the Magyar, Slovak, German, French, and Latin tongues, the last of which was still in part the legal language of his country. The institutions of Hungary were purely aristocratic, and as regards the great bulk of the people in a high degree oppressive; but in their constitutional form, in the municipal autonomy of the counties, the periodicity of the diets and municipal assemblies, the freedom and publicity of debate, and the vast numbers of the nobility, they not only possessed essential guaranties against the bureaucratic absolutism of Vienna, but also vital germs of progress and future general freedom. Jealousy of the constitutional bulwarks, and a gradual extension of the constitutional franchise, formed the programme of the Hungarian progressives, in whose spirit Kossuth made his political début, shortly after leaving college, in the assembly of his native county, of which he was appointed an assessor (*tablatörő*). He soon became noted as a liberal, exceedingly popular with the lower classes, was patronized by many of the higher nobility, but disliked by others, and was successful in the legal profession, on which he relied for his maintenance, being for some time the legal and fiscal manager of the estates of the countess Szapáry in Zemplén. During the ravages of the cholera in 1831, and the outbreak of the peasantry which accompa-

nied them in that county, he displayed a remarkable activity, which augmented his popularity. He soon after repaired to Presburg as proxy of a magnate or member of the upper house of the diet, in which capacity he had a deliberative voice, but no vote, in the lower. Having tried unsuccessfully on one occasion to secure the attention of the house, he subsequently shared the silence of his fellow proxies, but his pen was actively and more effectively employed. The diet of 1832-'6, which in several ways ameliorated the condition of the peasantry, ranks among the more important assemblies of modern Hungary. Its debates, closely following the Polish tragedy of 1831, were watched with lively anxiety by the patriots, but their publicity was hindered by severe restrictions on the press. The opposition, at the suggestion of Kossuth, resorted to the extraordinary means of a written newspaper for the information of their constituents and the public at large, and intrusted him with the laborious task, which he performed with equal ardor, skill, and perseverance. The *Országgyűlési tudósítások* ("Parliamentary Communications"), extracts and comments, were dictated by him to a large number of copyists, and widely circulated in spite of the obstacles thrown in the way by the post office. The opposition party and its organ gained alike in popularity by this not always impartial diffusion of liberal ideas throughout the country. After the close of the diet, Kossuth endeavored to continue his activity by a lithographic paper, *Törvényhatósági tudósítások* ("Municipal Communications"), edited in Pesth, and destined to form a central organ and bond of union of the opposition in the county assemblies. The government, now freed from the jealous watchfulness of the diet, prohibited its publication. Kossuth, who received the prohibition in an unconstitutional way, resisted, putting himself under the protection of the county of Pesth. The government sent its prohibition to the latter. The assembly refused to obey, declaring all censorship unconstitutional, and its exercise a usurpation. Numerous other counties supported Kossuth with equal zeal. The government now resorted to open violence, and caused the young journalist with several other advocates of the popular cause, among them the fiery Transylvanian agitator Baron Nicholas Wesselényi, to be arrested by the soldiery. Kossuth was seized in the night at his summer residence in the mountains of Buda (May 2, 1837), tried, and finally condemned for treason to 4 years' imprisonment. A general outburst of indignation and an unprecedented agitation followed these acts. The liberals carried the elections for the diet of 1839-'40, and answered the government propositions, the principal of which were demands for subsidies in money and men, with a demand for the liberation of the prisoners. The Thiers ministry in France threatening a general movement in Europe, which was then agitated by the Egyptian question, the cabinet of Vienna was compelled to yield. One of the

prisoners, Lovassy, was mad; Wesselényi left his prison blind; Kossuth left that of Buda enfeebled in body, but with a mind enriched by earnest meditation on political questions. His liberation was hailed with loud demonstrations, but he had lost his father. In the house of his mother he made the acquaintance of Theresa Meszlényi, an accomplished young lady whom he afterward married, while her brother married his sister Susanna. The laws of 1840, enacted under the leadership in the house of deputies of Francis Deák of Zala, gave new vigor to the opposition; its tendencies became broader, its supporters more numerous. It was at this juncture that Landerer, a publisher of Pesth, having received from the government a license for the publication of a semi-weekly journal with the right of choosing its editor, invited Kossuth to assume its direction. The *Pesti hírlap* ("Pesth Journal") started Jan. 1, 1841, with fewer than 100 subscribers, but in a month they were numbered by thousands. Reform after reform was proposed, every abuse in institutions, laws, and practice was scrutinized and denounced, every question of general interest discussed. The national, moral, and material regeneration of the people, of the whole people, was the avowed aim; the existing constitution was to serve as a means; the aristocracy to have the lead. Turning to the latter in his programme, Kossuth exclaimed: "With you, if you choose; without you or against you, if it must be." The ability with which he managed to break his way through the difficulties created by Metternich's censors of the press was admirable. Not only the government and the conservatives of the higher nobility were alarmed; Count Stephen Széchenyi himself, a renowned patriot and moderate champion of reform, was the first to appear in the lists against the innovator, who ventured so far beyond the former programme of the opposition. In a book entitled *Kelet népe* ("People of the East"), he denounced him as a dangerous agrarian and demagogue. An admirer of the English constitution, Széchenyi was ready to bestow freedom on the people as a gift; Kossuth demanded it as a right, and threatened to extort it. Material progress and practical calculation were foremost in the views of the former, liberty and enthusiasm in those of the latter. Kossuth replied to Széchenyi in a *Felvetel* ("Answer"). Baron Eötvös declared in his favor in the pamphlet *Pesti hírlap és Kelet népe*. The conservatives found an able advocate in Count Aurel Dessewffy, who began an acrimonious warfare against the agitator in the columns of the *Világ* ("Light"), which was continued after his death by his brother Count Emil Dessewffy in that paper, and subsequently in the *Budapesti híradó* ("Buda-Pesth Intelligence"). Public opinion was decidedly in favor of Kossuth, and the *Pesti hírlap* not only became the regular organ of the opposition, which again carried the elections in 1843, but also the oracle of the younger portion of the nation. The diet of 1843-'4,

though deprived of the leading and organizing talents of Deák, had in Count Louis Batthyányi and Baron Eötvös, the leaders of the upper house, in Klauzál, Beöthy, Szentkirályi, Pálóczy, Szemere, Bezerédy, Pázmándy, Ghyczy, and others, a number of bold and eloquent advocates of popular rights; and the whole tenor of the debates, though the conservatism of the majority of the house of magnates prevented much from being done, impelled the government to a series of new reactionary efforts. The autonomy of the counties was assailed. A difficulty with the publisher, which was not believed to be accidental, removed Kossuth from the editorship of the *Pesti hírlap*, which was transferred to Szalay (July 1, 1844). Kossuth received no license for another journal, and as the new editor of his former organ belonged to a branch of the opposition, the friends of centralization under the lead of Eötvös, to which he was most heartily opposed, he found no better medium for the occasional publication of his views than the *Hetilap* ("Weekly Paper"), a small industrial sheet. He was, however, far from yielding an easy triumph to the government. Not satisfied with the influence he exercised by his eloquence in the quarterly assemblies of the county of Pesth, which played a leading part in the debates of the nation, he sought a new arena for agitation in the yet unrestricted sphere of association. Hungary, separated from the other provinces of the Austrian empire by watchfully guarded barriers, was exhausted by a tariff calculated to keep it for ever in a state of colonial dependence on the German provinces, which, on their part, were protected by another tariff in their industrial developments against the competition of England, France, or Belgium. This system formed one of the chief grievances of the nation, and the orators of the diet of 1843-4 had in vain exhausted all the powers of their oratory in denouncing it. Assisted by the most influential members of the opposition, among others by Counts Louis and Casimir Batthyányi, Kossuth now founded the *Védegylet* (protective union), an association whose members, men and women, bound themselves for 5 years to use exclusively home-made productions, whenever these could be had. Other societies, agricultural, commercial, and industrial, were practically to assist the protective union. The latter soon counted their members by hundreds of thousands, affiliated in all parts of the country. Kossuth was the animating spirit of the whole organization, which for various reasons, originating in part in the industrial condition of the country, and in part in the character of the people, proved less effective for its direct purpose, the development of home industry, than for the no less important end of keeping alive the national agitation. Most of the practical projects failed, among others that of constructing a railroad from the lower Danube to the Adriatic at Fiume, as a national channel for the exportation of Hungarian products, and for a direct communication with England.

After some time the protective union languished, and even the personal popularity of Kossuth seemed to be on the decrease, when the elections of 1847, coinciding with the movements in Switzerland, Italy, and elsewhere, precursory to the revolutions of the following year, gave a new turn to affairs. Kossuth appeared with Szentkirályi as a candidate for the county of Pesth. The efforts of the government party to prevent his election were immense, but fruitless; the influence of the Batthyánys and their friends prevailed. The programme of the opposition at the opening of the diet was bolder and more distinctly democratic than before. In order personally to combat his eloquent antagonist, Count Széchenyi, although entitled by his rank to a seat in the upper house, had himself elected to the lower for Wieselburg. A few sessions sufficed to establish Kossuth as a recognized leader of the house; his eloquence, surpassing knowledge of the history and statistics of his own and other countries, untiring energy, and perfect mastery of every question, made him irresistible. His attitude toward the government was now one of open hostility. The uncompromising opposition between the two parties seemed to condemn the diet to inaction, when the news of the Paris revolution of Feb. 1848 reached Presburg. Kossuth hesitated not a moment to take advantage of the state of affairs. The time of compromises between the rule of Metternich and the constitutionalism of Hungary was gone. In a speech delivered on March 3, he proposed an address to the king (the emperor Ferdinand), urging the restoration of Hungary to its former independence as a state, and the granting of a charter of liberty for the whole Austrian empire. The house of deputies accepted the propositions almost unanimously; the upper house wavered, but the people of Vienna, taking the matter into their own hands, decided the question on March 18. Metternich fled. Kossuth was received in the capital of the empire, whither he now carried his address, with the honors of a liberator, and Louis Batthyányi was intrusted by Ferdinand with the formation of an independent Hungarian ministry. Simultaneously Pesth had its day of revolution, March 15. Kossuth received the department of finance in the new ministry, which embraced the most distinguished representatives of the opposition movement since 1825, Széchenyi, the late adversary of Kossuth, Deák, Klauzál, Eötvös, and Szemere. The long urged measures of liberal reform were now carried in an amplified shape, and when on April 11, 1848, the last diet of Presburg closed its sessions, to make room for a national assembly in Pesth, the noble members might have boasted of having agitated and carried through the abolition of their own most essential prerogatives, and prepared for the advent of democracy. This great revolution was thus executed by peaceful and legal means; but a bloody conflict was to follow. Kossuth well knew it, and though anxious to avert it, made

ready for every emergency. Losing little time in enjoying the honors of his triumph, he devoted all his energies, as the leading spirit of the new government, to the organization and consolidation of its powers. The difficulties were enormous. The Hungarian troops were abroad, and foreigners under foreign officers garrisoned the fortresses and principal cities. The Slavic population of the south of Hungary, long agitated by Pan-Slavic tendencies fostered by Russia, and still more by the tools of the cabinet at Vienna, rose in insurrection against the new order of things. The new ban of Croatia, Jellachich, took arms ostensibly for the independence of his province, but in reality for the restoration of absolutism. The Wallachs and Saxons in Transylvania, which was to be reunited with Hungary, joined the reactionary movement. The "camarilla" of Vienna, and afterward of Innsbruck, was soon reassured and emboldened by successes in Galicia, Prague, and Italy. The Hungarian treasury was empty; ammunition, arms, and military experience were wanting; few officers of rank could be trusted; the Magyars of the north had not heard the sound of cannon since the times of Rákóczy, those of the south since the wars of Eugene. Kossuth created a treasury, organized the militia, formed new battalions of national soldiery (*honvédek*), established armories, and roused the spirit of the nation by proclamations, speeches, and articles in his new organ, *Kossuth hírlapja* (edited by Bajza), though at the same time neglecting no means of bringing about a peaceful solution of the difficulties. His speech to the diet at Pesth, July 11, in which he demanded the granting of 200,000 men and 42,000,000 florins for the defence of the country, was a masterpiece of eloquence. A small radical opposition had already formed itself, but its spokesman Nyáry was the first to rise with the solemn declaration: "We grant it." The king, however, refused his sanction. The south of Hungary and Transylvania were already bleeding in an internecine struggle of races, in which the Rascians, old enemies of the Magyars, were particularly conspicuous. All Batthyányi's endeavors and a deputation of the diet, consisting of 120 members, to the court of Vienna, were of no avail. Reaction was triumphant everywhere, the camarilla was flushed by the victories of Radetzky, and Jellachich crossed the Drave with a large army to subdue Hungary. Batthyányi resigned; the palatine Stephen was in vain invoked to mediate, and finally fled; Jellachich was approaching the capital. Kossuth in the meantime had begun his armaments and issued treasury notes without the sanction of the king, and, in a proclamation full of oriental fire, he called upon the people to rise and vindicate their rights, threatening them with the contempt of the nations in case of cowardly submission. He repaired to the people of the Theiss, who flocked around his banners, and on his return entered upon a new course of activity, as head of the "committee of defence."

The war of revolution was thus begun. (See HUNGARY.) It was from beginning to end a struggle for life or death under inauspicious circumstances. The Magyars and their kindred the Szeklers of Transylvania, supported by the German and Jewish population and a part of the Slovaks and Ruthenians, as well as by volunteers from Poland, Vienna, the Tyrol, and Italy, fought with exalted enthusiasm against the regular forces of Austria, against Croats, Slavonians, Rascians, military borderers, Serbs from Turkey, Wallachs, Saxons, and Cecho-Slovakish volunteers, and finally against the armies of Russia. Several of the fortresses of the country, Temesvár, Arad, Carlsburg, &c., were in the hands of the enemy; communication with foreign countries was impossible; the way for invasion was open on every side; hesitation, wavering, and dissensions were almost unavoidable. Still, after many defeats, valor and enthusiasm triumphed for a time over discipline and the difficulties of the situation, and the world abroad saw with astonishment bands of volunteers and raw levies transformed into victorious armies; fortresses taken by assault; a province of Austria converted into an independent state; a journalist placed at the head of a nation, once renowned for loyalty, as responsible "governing president;" and the fields of the Theiss becoming the scene of a final decision between absolutism and democracy in Europe. The overwhelming power of Russia, the obstinate disobedience of one of the revolutionary commanders, the want of arms, and the indifference of the governments of Europe, or rather their connivance with Russia and Austria, finally decided against Hungary and Kossuth, its moral dictator. It is hard to determine whether he could have averted the catastrophe by a timely removal of Görgey. Certain it is that such a step would have been at any time dangerous. The victorious general was the favorite of his army and the choice of his officers. He generally operated independently, and the services of his army could at no moment be spared, the state of affairs being continually one of imminent peril. To dismiss him was impossible; to arrest and imprison him would have provoked mutinies for his release; to have him tried and executed for what could hardly be called treason would have been regarded as a murder committed for the removal of a rival, guilty only of having acquired too much glory in the service of the country. That Kossuth was on many occasions too scrupulous in guarding his reputation has since, and perhaps not without reason, often been asserted. But it was also this unstained reputation of the revolutionary dictatorship which formed one of the principal sources of its successes. It inspired the people with confidence, the diet with unanimity, the non-Magyars with love for the national leaders. Never had a revolution in Europe been carried on with so little internal strife, amid so much personal freedom, with such order and legality. The bitterest former assailants of Kossuth, Des-

sewffy, I. Nagy, and others, lived unharmed; those who afterward became his assailants, as Szemere and Casimir Batthyányi, acted in harmony with him to the last moment of the revolution; generals of independent will and character, as Perczel and others, except Görgey, obeyed, though reluctantly. On Aug. 11, 1849, Kossuth transferred his powers to Görgey, who two days later surrendered to the Russians. Kossuth, like Tökölyi and Rákóczy, the leaders of the Hungarian patriots in similar movements of former centuries, sought refuge in Turkey. This state was certainly not ill disposed toward the refugees, with whom it shared the hatred of Russia, but fear of that empire led it to an apparently unfriendly course. Kossuth and his followers were confined in Widin, Shumla, and subsequently in Kutaieh in Asia Minor. His extradition was demanded by Austria and Russia, but though he refused with scorn the proposed means of evading all danger by an adoption of the Mohammedan religion, the Porte, true to the principle of hospitality, so sacred to Moslems, and encouraged by England and France, resisted all threats; and finally, at the intervention of the United States and England, he was allowed to depart with his family and friends. His wife had secretly escaped from Hungary, and his 8 children, 3 sons and a daughter, had also been allowed by Haynau to join him in Asia. On Sept. 1, 1851, he was liberated and set out to embark on the war steamer Mississippi, Capt. Long, which had been despatched by the United States government, in accordance with a resolution of the senate, to convey him to America as the nation's guest. The Mississippi touched at the ports of Smyrna, Spezia in Italy, and Marseilles. He was received with lively demonstrations of sympathy by the population, but the governments of both Sardinia and France refused to allow him a passage through their territory to England. In Marseilles he published a stirring address in French to the people. Worn out by cares and grief at the fall of his country and the death of its most zealous defenders, he was yet unbroken in spirit, and he had employed the days of his confinement in Asia not only in the study of military science, but also in perfecting his knowledge of living languages. He was able to address the people of the West in French, English, German, and Italian. Preparatory to pleading the cause of his country before the people of Great Britain and the United States, he had made English his special study; and when, after visiting Gibraltar and Lisbon, where he was treated with distinction, he finally reached Southampton, he was listened to with no less admiration than sympathy by the English. The same enthusiastic feeling followed him on his tour through the most populous cities of the kingdom, and subsequently through the United States, where he arrived Dec. 5, 1851, accompanied by his wife and Mr. and Mrs. Pulszky. He addressed numberless deputations and meetings in New York, Philadelphia, Baltimore, Washington, Annapolis, Pittsburg, Cleveland, Co-

lumbus, Cincinnati, Indianapolis, Louisville, St. Louis, Jackson, Mobile, New Haven, Springfield, Worcester, Boston, Salem, Albany, Buffalo, Syracuse, Utica, and numerous other places, urging the acknowledgment of the claims of Hungary to independence, and the interference of the United States jointly with England in behalf of the principle of non-intervention, which would allow the nations of Europe fair play in a new struggle for liberty. His agitation received a fatal blow by the *coup d'état* of Louis Napoleon, the news of which arrived about a fortnight after his landing, almost entirely destroying the hope for a speedy regeneration of Europe. His call for effective aid in contributions for a reopening of the struggle in Hungary had therefore a very small result, in spite of the general sympathy with the exile and his cause. At the seat of the federal government he was received with distinctions which had never been bestowed on any foreigner except Lafayette. At a banquet given him by the members of both houses of congress, and at which he was addressed among others by Daniel Webster and Gen. Cass, he began his speech with the following words: "Sir: as once Cincinnatus the Epirote stood among the senators of Rome, who with a word of self-conscious majesty arrested kings in their ambitious march, thus, full of admiration and of reverence, I stand among you, legislators of the new capitol, that glorious hall of your people's collective majesty. The capitol of old yet stands, but the spirit has departed from it, and is come over to yours, purified by the air of liberty. The old stands, a mournful monument of the fragility of human things; yours as a sanctuary of eternal right. The old beamed with the red lustre of conquest, now darkened by the gloom of oppression; yours is bright with freedom. The old absorbed the world into its own centralized glory; yours protects your own nation from being absorbed, even by itself. The old was awful with unrestricted power; yours is glorious by having restricted it. At the view of the old, nations trembled; at the view of yours, humanity hopes. To the old, misfortune was introduced with fettered hands to kneel at triumphant conquerors' feet; to yours the triumph of introduction is granted to unfortunate exiles who are invited to the honor of a seat. And where kings and Cæsars never will be hailed for their power and wealth, there the persecuted chief of a down-trodden nation is welcomed as your great republic's guest, precisely because he is persecuted, helpless, and poor. In the old, the terrible *ex victis*! was the rule; in yours, protection to the oppressed, malediction to ambitious oppressors, and consolation to a vanquished just cause. And while from the old a conquered world was ruled, you in yours provide for the common federative interests of a territory larger than that old conquered world. There sat men boasting that their will was sovereign of the earth; here sit men whose glory is to acknowledge 'the laws of nature and nature's God,' and to do what their sovereign, the people,

will." With honors and distinction, however, he received not a little criticism and reproach, which also pursued him through his subsequent course in Europe, where he returned in July, 1852, and where he for some time acted in concert with Mazzini and Ledru-Rollin, forming with them a kind of revolutionary triumvirate. Preparations for a rising in the spring of 1853, which rapidly consumed the contributions received in the United States, ended with the execution of Jubal, Noszlopi, and others in Hungary, and with the banishment of Kossuth's patriotic mother and sisters. His mother died soon after in Brussels; one of his sisters, Mme. Meszlényi, died some time after her arrival in the United States, where the other two, Mme. Zulyavsky and Mme. Ruttkay, still reside. The outbreak of Milan (Feb. 1853, during which an old proclamation of Kossuth's was used by the friends of Mazzini, led to a misunderstanding with the latter, and to an investigation by the English government of the doings of the political refugees, which however proved nothing against Kossuth. The hopes inspired by the war against Russia also proved delusive. Kossuth's published remarks on the false strategical course pursued in that war by the allies were but too well justified by the development of events. After some participation in newspaper discussions, he finally resumed his activity as a public speaker, delivering lectures on various topics of European interest, but especially on the history and affairs of Hungary, in various cities of England and Scotland, on the proceeds of which he has since relied for the maintenance of his family. The preparations of Napoleon and Victor Emanuel for a war against Austria at the beginning of 1859 once more rekindled his hope for the liberation of Hungary; and the speech for the neutrality of England in the war, which he was called upon to deliver by the friends of Italy in London, and the marked influence which it exercised, proved the unabated vigor of his faculties. He soon after repaired to Paris, and subsequently to Italy, where he was received with great enthusiasm by the people, and introduced by Prince Napoleon to the emperor of the French, with whom he concerted a common plan of attacking Austria in its Hungarian possessions in case the war should be carried into the interior of Venetia. This, however, was prevented by the peace of Villafranca; Kossuth, bitterly disappointed, returned to England, and the Hungarian legion, formed under Klapka in Sardinia, was dissolved.—Various collections of more or less complete speeches by Kossuth have been published in England, the United States, and Germany. Sketches of his life and career are still more numerous, but there is hardly any which can pretend to the importance of a historical biography.

KOSTROMA, a government of European Russia, between lat. 56° and 60° N., and long. 40° and 48° E., bounded N. by Vologda, E. by

Viatka, S. by Nijni Novgorod and Vladimir, and W. by Jaroslav; area about 80,000 sq. m.; pop. about 1,000,000, almost all Russians. It is traversed by the Volga, which here receives the Kostroma and other rivers. It consists of wide plains, little varied by gentle acclivities or river banks. The northern part is comparatively swampy and cold. Extensive woods abound. The soil is generally fertile. Agriculture, the rearing of cattle and sheep, hunting, and fishing are the chief pursuits of the inhabitants. Cloth, leather, and iron are manufactured to some extent. Capital, Kostroma on the Volga, one of the more interesting cities of eastern Russia, with a population of about 15,000.

KOTAH, a native state of Hindostan in Rajpootana, lying between lat. 24° 30' and 25° 50' N., and long. 75° 35' and 76° 56' E., bounded N. E. and E. by Jhallowa, Gwalior, and Ohupra, N. W. and W. by the Ohumbul and a part of Gwalior, and S. by an isolated portion of Holkar's territory and Jhallowa; area about 4,889 sq. m.; pop. 488,000. The surface is, for the most part, an inclined plane, sloping gently northward from the high table-land of Malwah. The soil is generally fertile and well cultivated, but the climate is very unfavorable, being intensely hot during the prevalence of the warm winds of summer, and extremely unhealthy during the rainy season. The rajah of Kotah is in subsidiary alliance with the British, and maintains a contingent of about 700 men, commanded by British officers. These troops rose against the British, July 4, 1857, and two regiments of the rajah's native army did the same on Oct. 15. The rajah kept faith with his allies.

KÖTHEN. See **ANHALT**.

KOTZEBUE, AUGUST FRIEDRICH FERDINAND VON, a German dramatist, born in Weimar, May 8, 1761, assassinated in Mannheim, March 28, 1819. He studied at the gymnasium of Weimar and the university of Jena. He intended to become a lawyer, but availed himself of every opportunity to acquire a knowledge of theatrical matters, and published some prose writings as early as 1791. The patronage of the Prussian ambassador secured for him employment as secretary of the governor-general of St. Petersburg, who on his death commended him to the favor of the empress. In 1785, after his marriage with a daughter of Lieut. Gen. Von Essen, he was appointed to a high judicial office in the province of Esthonia, and was ennobled, which afterward led him to write a fulsome work on nobility. His literary reputation was established by several successful novels and dramas, but injured by the publication of *Doctor Bahrdt mit der Eisernen Stirn* ("Dr. Bahrdt with the Brazen Face"), in which he attacked the celebrated poets of Weimar (Goethe, Schiller, &c.), who had declined to admit him into their society. After the death of his wife he visited Paris, on which occasion he wrote another ill-mannered book (*Meine Flucht nach Paris*, 1790). After his return to Russia, he devoted several years to writing a series of

plays until 1798, when he succeeded Abtinger as poet laureate of the imperial court and theatre at Vienna. In 1800 he retired from that position with a pension of \$500. After a temporary residence at Weimar he returned to Russia, where his children were educated in the military academy of St. Petersburg; but he was arrested on the frontier of Courland on suspicion of having written pamphlets against the emperor Paul, and banished to Siberia. He published a rather romantic description of the year which he spent in exile (*Das merkwürdigste Jahr meines Lebens*, 8d ed. 1808; French and English translations, 1809), and was indebted for his liberation to one of his plays (*Der Leibarzt des Kaisers des Grossen*), which had been translated into Russian, and given so much satisfaction to the emperor, who was indirectly represented in it in a flattering light, that he was not only recalled, but presented with an estate in Livonia and made director of the German theatre in St. Petersburg and imperial councillor. After the emperor's death he returned to Weimar, and subsequently went to Jena, but his malignant conduct toward Goethe compelled him to leave both cities. He took up his abode in Berlin, where he became a member of the academy of sciences, and one of the editors of a literary journal (*Der Freimüthige*), in which he continued his warfare against the most eminent literary men of Germany. Between 1802 and 1806 he published an entertaining but superficial account of his travels in Livonia, France, and Italy; and in 1808-'9 appeared his "History of Prussia" (*Preussens ältere Geschichte*), esteemed only for its collection of authentic historical documents. After the battle of Jena he fled to Russia on account of his violent animosity against the French, which he continued to display from 1808 to 1812 in the columns of various literary journals. He was made councillor of state, and in 1814 Russian consul-general for Prussia in Königsberg. In 1816 he received an appointment in the ministry of foreign affairs in St. Petersburg, and in 1817 the emperor Alexander engaged him at a considerable annual salary to report on the state of public opinion in Germany. He resided alternately at Weimar and Mannheim, and at the same time conducted a weekly journal. The little respect entertained for him by the best minds of Germany grew still less from his unscrupulous attacks on the advocates of free institutions. He was denounced as a mercenary tool of despotism, and when it became known that he was the author of letters to the czar, and of articles, in which the secret political associations of the German students (*Burschenschaften*) were held up to the scorn and ridicule of the world, a young and enthusiastic student named Sand repaired to Mannheim and made his appearance in Kotzebue's residence on the morning of March 28. The author was not at home, but returned in the afternoon, when the youth called again, and, after exchanging a few words, stabbed him in the breast with a dagger,

exclaiming: "This is for you, traitor to your country."—Kotzebue was the most fertile and successful writer of plays whom Germany ever produced. Many of them have been translated into English, French, and other foreign languages. Among those best known on the American and English stage are the "Stranger" and "Pizarro," both adapted by Sheridan, the former from Kotzebue's *Menschenhass und Reue* ("Misanthropy and Repentance"), and the latter from his *Incas in Peru*. The number of his serious plays was about 100, but they have almost disappeared from the stage. His comedies and farces exceeded that number, and some of the most humorous of them retain their popularity. Complete editions of his dramatic works appeared in Leipsic in 1797-1828, in 28 vols., and in 1827-'9, in 44 vols. His most successful novel is one written in his early life ("Sorrows of the Ortenberg Family," French translation, Paris, 1801). His posthumous writings were published in Leipsic in 1821. An English translation of his autobiography appeared in London in 1800. His German biographers are Cramer (Leipsic, 1819) and Döring (Weimar, 1829).—OTTO VOX, son of the preceding, a Russian traveller, born in Revel, Dec. 19, 1787, died there, Feb. 13, 1846. He was educated at the academy of St. Petersburg, and joined Krusenstern as midshipman in a voyage round the world, from which he returned in 1806. He was promoted to the rank of lieutenant, and intrusted in 1815 with the command of the Rurik, a vessel equipped at the expense of Count Rumiantzoff. He was joined in this expedition by the poet Chamisso, and by the naturalists Eschscholtz and Ochora. After the discovery of various islands, bays, and a sound N. E. of Behring's strait, since called after him, he returned to Russia, Aug. 8, 1818, and published an account of his journey, which has been translated into French and English ("A Voyage of Discovery into the South Sea and Behring's Strait in the Years 1815-'18," 3 vols. 8vo., London, 1821). In 1823 he undertook a third voyage as captain of an imperial man-of-war, and was again accompanied by Eschscholtz and other savants, also by the sons of the Russian minister of marine, Möller, and of Krusenstern. Touching at Rio de Janeiro, he doubled Cape Horn, discovered several islands, collected much valuable information on ethnography, natural history, and geography, visited New California and the Sandwich islands, and on his way home touched at the Philippine islands, reaching Cronstadt July 10, 1826. In 1829 he retired from active service, and spent the rest of his life with his family in Esthonia. His explorations have advanced considerably the knowledge of hydrography, especially that of the South sea. He published a narrative of his voyage, of which an English translation appeared in London in 1880 ("A New Voyage round the World in the Years 1823-6"). The romantic character of the narrative led several critics to impugn its veracity, although there is no evidence by which

the charge can be supported. Eschscholtz enriched the volume with full zoological information.—MORITZ, brother of the preceding, born April 30, 1789, sailed with Krusenstern round the world, entered the Russian army in 1806, was captured by the French in 1812, liberated in 1814, and published in 1815 an account of his adventures (*Der Russische Kriegsgefangene unter den Franzosen*). Attached to the Russian embassy, he made a journey to Persia in 1819, of which his father published a description in Weimar in 1819 (English translation, "Narrative of a Journey into Persia in 1817," London, 1819).—The eldest brother, WILHELM, born in 1788, served in the Austrian army, afterward in that of Russia, and was lieutenant-colonel when he died in 1812 from wounds received at the battle of Polotzk.

KOULI KHAN. See NADIR SHAH.

KOUMAS, CONSTANTINE MICHEL, a modern Greek scholar and author, born in Larissa in Thessaly about 1775, died in Trieste, May 18, 1886. He studied at the college of Tournovo, and travelled in Germany, where he became intimate with Wieland, Wolf, and others, who encouraged him in his desire to promote literature and education in Greece. For several years after returning to his native country he labored diligently to this end. In 1821, when the revolution broke out, he escaped from the Turks and fled to Trieste, where he was appointed to the directorship of the Greek gymnasium. He published several works on grammar and history, the principal being his great Greek dictionary (Vienna, 1826).

KOUMISS, an alcoholic liquor distilled by the Calmuck Tartars from mares' milk as it is undergoing fermentation. It is stated that 21 oz. of milk yield 14 oz. of low wines, from which 6 oz. of pretty strong alcohol are obtained by rectification. Cows' milk, probably from its containing less saccharine matter, yields much less spirit.

KOZLOFF, IVAN, a Russian poet, born in 1774, died in 1888. An accomplished man of the world, at the age of 29 he lost the use of his legs by paralysis, and not long after became totally blind. The cultivation of literature and the study of the modern languages thenceforth afforded him the chief alleviation of his misfortunes. To the English language he gave particular attention, and in a short time was able to speak and write it. Pushkin's "Fountain of Bakhisserei" was translated by him into English with as much correctness as if done by an Englishman. He translated into Russian many of the choicest minor poems of the English language, and long extracts from "Childe Harold" and "Don Juan." Byron seems to have been his model as a poet, and two of his most important narrative poems, the "Monk" and the "Princess Dolgoruki," are in the style of the "Ghaour." His poems have been collected in 2 vols.

KOZMIAN, KAJETAN, a Polish poet, born in the latter part of the 18th century, died near

Lublin, March 7, 1856. He wrote the biographies of Kosciuszko and other eminent men, and translated Horace, the Bucolics of Virgil, and other classic authors. His lyrics have found many admirers. His last work, not yet published, is an epic poem, "Ozarniecki."

KRAITSIR, CHARLES, a Hungarian physician and philologist, born in Szomolnok (Germ. Schmölnitz), county of Zips, Jan. 28, 1804, died at Morrisania, Westchester co., N.Y., May 7, 1860. He received his first education at Rosenau and Kaschau, and afterward studied medicine and various branches of science at the university of Pesth, where he was graduated as M.D. in 1828. In the beginning of 1831 he went to Poland, where he took an active part in the revolution; and joining the Polish army in the capacity of physician, he subsequently accompanied it through Germany to France, where he became a member of the Polish emigration committee. He came to the United States in 1833, with a view of promoting the welfare of the Poles by founding a Polish colony. A narrative of his efforts is contained in his work entitled "The Poles in the United States," the 1st volume of which was published in Philadelphia in 1836-'7. In 1837-'8 he established an academy at Elliott's Mills, near Baltimore; afterward resided for some time in Washington city; officiated in 1840-'41 as principal of the state academy of Maryland at Charlotte's Hall, and from 1842 to 1844 as professor of modern languages and history in the university of Virginia. Next he went to Boston, where he delivered lectures on philology and established a school. In 1846 appeared his "First Book of English," and in the same year his "Significance of the Alphabet." On the outbreak of the revolution of 1848 he hastened to Europe, but soon returned to Boston, and came in 1851 to New York, where he published in 1852 his "Glossology." He passed the last years of his life at Morrisania, engaged in literary pursuits.

KRAKEN, the name of a sea monster on the coast of Norway, first described by Pontoppidan, bishop of Bergen, in his "Natural History of Norway" (Copenhagen, 1752). The Norwegian fishermen, according to him, often find unexpected shallows a few miles at sea, the depth of the water suddenly diminishing from near 100 fathoms to 20 or 30. This apparent diminution is due to the presence of the kraken, and in such shallows fish are always found in abundance. If the fishermen perceive by their lines that the water is growing shallower, they know that the monster is rising to the surface, and immediately retreat. His back first appears, looking like a number of small islands, and at the lowest computation appearing to be $1\frac{1}{2}$ m. in circumference. His arms rise above the surface like the masts of a vessel, and are said to have power to grasp the largest man-of-war and pull it to the bottom. When he sinks again, he causes a swell and whirlpool which endangers all the ships in the vicinity. The story of the kraken is now admitted to be

fabulous, and is supposed to owe its origin to exaggerated accounts of enormous whales or polypi.

KRANACH, LUCAS. See **CRANACH**.

KRASICKI, IGNAOY, a Polish poet, born at Dubiecko, Galicia, Feb. 8, 1784, died in Berlin, March 14, 1801. He was educated at Lemberg, took holy orders, and early displayed great literary genius and conversational power. He became a favorite of King Stanislas Augustus, and after having officiated as coadjutor of the bishop of Ermeland or Warmia, he succeeded to the see after the death of the latter in 1766. In 1772, on the first partition of Poland, Ermeland became part of Prussia, and Krasicki, who now transferred his allegiance to Frederic the Great, was soon as high in the favor of his new master as he had been in that of his old. In 1795 he was raised to the archbishopric of Gnesen, to the cathedral of which his remains were removed in 1829. His literary activity embraced a wide range. He wrote a heroic epic (the "War of Chocim"), and many small poems which are replete with wit. The best of his novels, *Pan Podstoli*, is a satire on the foibles of his countrymen. He translated Ossian, Plutarch, and other works, but is most celebrated for his fables, in which he endeavored to imitate La Fontaine, and for his comic epics. The most valued of them, his *Monachomachia*, ridicules the monkish system and exhibits its peculiarities in strong colors. Dmochowski, who pays a glowing tribute to his genius, prepared an edition of his works (10 vols., Warsaw, 1808-'4). A stereotyped edition appeared in Breslau in 1824, and a new edition of the whole in one double-columned 8vo. vol. in Paris in 1881.

KRASINSKI, VALERIAN, count, a Polish writer, born in the ancient Polish province of White Russia about 1780, died in Edinburgh, Dec. 22, 1855. He was a scion of the illustrious Krasinski family, whose former palace is now used as the government house of Warsaw, and belonged to that branch of it which at an early period had embraced the Protestant religion. Having enjoyed the highest educational advantages, and being of great natural ability, he was at an early age appointed chief of a department of the ministry of public instruction, which was charged with the superintendence of all dissenters. He exerted himself strenuously in their behalf, and established a college for Jewish rabbis at Warsaw. On the outbreak of the Polish revolution in 1830, he was sent on a diplomatic mission to England, where, after the subjugation of his unfortunate country by Russia, he was compelled to remain an exile. He resided in London until 1850, when he removed to Edinburgh, and was much respected in the best circles of both cities for his elegant culture and extensive learning, as well as for the honorable manner in which he supported himself by his pen. He learned to write in English with great facility, and was an active contributor to the periodical press. His principal works are: "The Rise, Progress, and Decline of the Reformation

in Poland" (2 vols., 1839-'40); "Lectures on the Religious History of the Slavonic Nations" (1849); and "Montenegro and the Slavonians in Turkey" (1853).

KRASZEWSKI, JOZEF IGNAOY, a Polish author, born in Warsaw, July 26, 1812. He was educated at Wilna, travelled extensively, and has written several historical and topographical works, over 100 novels, the best of which are said to be the "Magic Lantern" and "Under Italian Skies," and many poems, among which his "Anafielas" and "Satan and Woman" are most admired. He has also written books of travel, plays, and critical works on art and literature, beside editing the principal literary journal of Poland (the "Athenæum," published at Wilna). He is justly regarded as the most fertile Polish man of letters of the present day.

KRAUSE, KARL CHRISTIAN FRIEDRICH, a German philosopher, born in Eisenberg, May 6, 1781, died in Munich, Sept. 27, 1832. He was educated at Jena, where he attended the lectures of Reinhold, Fichte, and Schelling, and was extraordinary professor from 1802 to 1804. He then renounced teaching to devote himself to the wide range of studies which he deemed necessary to give completeness to his philosophical system, resided successively in Rudolstadt, Dresden, and Berlin, made several journeys through Germany, France, and Italy, and lectured at Göttingen from 1824 to 1831, when he retired to Munich. The aim of his speculations was to represent the collective life of man as an organic and harmonious unity; and he conceived the scheme of a public and formal union of mankind, which, embracing the church, state, and all other partial unions, should occupy itself only with the interests of abstract humanity, and should labor for a uniform and universal development and culture. The germ of such a union he thought he found in freemasonry, to which he rendered great service by his works. Among his more important works are: *Vorlesungen über das System der Philosophie* (Göttingen, 1828), and *Vorlesungen über die Grundwahrheiten der Wissenschaft* (Göttingen, 1829).

KREMLIN, a celebrated fortress of Moscow, intimately associated with the history of the Russian empire, the residence of its ancient czars, and the heart of its ancient capital. It was first built of stone at the end of the 14th century, after having previously existed in a temporary form, and is situated on an eminence, at the foot of which flows the Moskva river. It is surrounded with walls from 12 to 16 feet thick, and from 28 to 50 feet high, with battlements, embrasures, numerous towers, and 5 gates, and forms, with its beautiful gardens, nearly a triangle of somewhat more than a mile in circumference. The Kremlin contains many cathedrals, churches, monasteries, and belfries, and some of the finest public buildings and monuments of Moscow, which, together with its commanding situation, its lofty walls with the variously colored towers, steeples, and domes, present a peculiar and imposing aspect. The

gate most celebrated by its sacred associations is that of the Redeemer. A picture of the Saviour hangs over the arch of this gate, and no person, not even the emperor, passes through it without signs of reverence. Many of the population remove their hats at 20 paces off, and on their way to and from the river turn toward the holy gate bowing and crossing themselves. Near another gate stands a little chapel or rather shrine, with the miraculous picture of the "Iberian Mother of God," which attracts crowds of worshippers. The Cathedral place on the height of the Kremlin—a consecrated spot, surrounded by Ozar Nicholas with a magnificent iron grating—contains the cathedrals of the Assumption and of the archangel St. Michael. In the former are the tombs of the patriarchs of the Greek church, and in the latter those of the czars down to Peter the Great. The cathedral of St. Basil, situated on the Red square between the walls of the Kremlin and those of the Kitai Gorod, is noted for its grotesque architecture. The paved court of the Kremlin is surmounted by the walls of the tower of Ivan Velikoi (the Great), presenting from its summit one of the most remarkable views in the world. On a granite pedestal at its foot stands the monster bell (*tsar kolokol*, or emperor of bells). In one of the lower stories of the tower is another bell of remarkable weight, and in the other stories are at least 40 or 50 smaller bells, all of which are rung during the whole of Easter week. The house of the Holy Synod is among the remarkable buildings of the Kremlin, containing the library, treasury, and wardrobe of the Russian patriarch, and the holy oil (*mir*) used for sacraments. Another immense pile of buildings contains the offices of the local government, and the arsenal and treasury, the former famous for its collection of arms, and the latter for its jewelled thrones and crowns, and other historical relics. The most important remains of the ancient palace of the czars are the Terema and the Granovitaya Palatas, the latter containing the coronation hall. The main body of this building was fatally injured by the French, and a new palace was erected in its stead by the emperor Alexander, called Bolshoi Dvoretz (great palace). By its side are the ruins of both the ancient palaces, which are connected with the new one by stairs and galleries. The Terema palace was repaired by order of the late emperor Nicholas, and the ancient aspect of the building carefully preserved. Adjoining the Granovitaya palace is the new or little palace, completed in 1850, and remarkable for its magnificence.—Napoleon I., after the invasion of Russia, took up his residence in the Kremlin, Sept. 15, 1812. The place is pointed out in the Terema palace from which he is said to have watched the progress of the fire, which compelled him to leave it on the evening of Sept. 16. He returned to it on Sept. 20, and finally departed Oct. 19. The coronation of the present emperor, Alexander II., took place in the Kremlin in 1856.

KREMINTZ (Hun. *Körmöcs-Bánya*, the lat-

ter word meaning mine), the principal mining town of Hungary, in the county of Bacs; pop. about 6,500. It is situated in a deep valley surrounded by rugged hills and mountains, has several suburbs, a mint, various mining establishments, smelting and washing works, a vitriol factory, paper mills, and other manufactories, and contains the principal offices of the surrounding gold and silver mining region. An aqueduct supplies it with water. Its mines consist of about a dozen principal and various minor shafts, the produce of which has greatly decreased in recent times. The Austrian ducats are coined in Kremnitz. It was formerly a place of considerable importance, and as a free royal city had its representation in the diet under the Hungarian constitution.

KRISHNA, a river of India. See KISTNAH.
KRÜDENER, JULIANE DE WIETINGHOFF, baroness, a Russian novelist and mystic, born in Riga, Nov. 11, 1764, died in Karasubazar, Dec. 15, 1824. She was carefully educated in the house of her father, the baron of Wietinghoff, one of the wealthiest proprietors in Livonia, and was early remarkable for intelligence and for a tendency to reverly and melancholy. In 1777 she visited Paris with her parents, and on her return at the age of 18 was married to a Russian diplomatist, Baron Krüdener, whom in 1784 she accompanied to Venice and other cities of Italy, and afterward to Copenhagen and Paris; and in 1791 she made a journey through the south of France. Of a singularly naive and romantic character, she was guilty of numerous indiscretions, which led to a separation from her husband in 1791. After an adventurous life, with a reputation for beauty and wit, in various cities of Europe, she went to Paris in 1803 with literary schemes. Her romance of *Valérie* appeared in that year, marked by a vague melancholy and light and graceful style, which, with the support of her friends, secured it a brilliant success. Returning to Riga, and remaining for a time in retirement, she resolved to change her manner of life, and to devote herself solely to the conversion of sinners and the consolation of the wretched. In this pious design she was confirmed by travelling in Germany, by correspondence with the Moravian brethren, and by an acquaintance with the theosophist Jung-Stilling. Her correspondence for several years abounds in mystical effusions, more elegant though less profound than those of Mme. Guyon, and reveals her double tendency to illuminism and to worldly frivolity. At Paris in 1814 she held religious assemblies in her house, which were frequented by the most important personages. Her spiritual exaltation assumed the character of prevision, and in a letter she foretold in vague terms the escape of Napoleon from Elba, his triumphant return to Paris, and the second exile of the Bourbons. This letter was communicated to the emperor Alexander of Russia, in whom it awakened great interest toward her, and whom she met at Heilbronn in May, 1815, and accompanied to Heidel-

berg, the head-quarters of the allies, and after the battle of Waterloo to Paris. So illustrious a patron attracted around her persons of all ranks and opinions. She was present at the grand review of the Russian army in the plain of Ohálons in 1815, which she described under the title of the *Camp des vertus* (1815). The articles of the holy alliance are said to have been submitted to her revision. Her doctrines, agreeing with the forms of no Ohristian communion, caused several of the German states to forbid her residence in them, and she prosecuted her schemes of charity in the midst of persecutions. She passed the latter part of her life among the poor and the sick, manifesting an unwearied ardor, and joyously sacrificing herself for the solace of the wretched. In 1818 she returned to Russia, where the emperor continued his interest in her romantic views, but forbade her to preach publicly. She lost his favor, and was ordered to leave St. Petersburg, when, in her enthusiasm for the cause of the Greeks, she divulged some of his communications on the policy of the czars in the East. Her health was suffering from ascetic rigors, when early in 1824 she joined with the princesses Galitzin in the scheme of founding a colony in the Crimea, which was to consist of her disciples. She arrived at Karasubazar, the site selected, in September of that year, and was busy in preaching in French and German to the astonished inhabitants, till after a few months the malady which had afflicted her before her arrival caused her death. The sincerity of Mme. de Krüdener in her mysticism and her apostolic labors has not been questioned.—See Eynard, *Vie de Madame de Krüdener* (Paris, 1849).

KRUG, WILHELM TRAUOGOT, a German philosopher, born in Radia, June 23, 1770, died in Leipsic, Jan. 13, 1842. He was educated at the university of Wittenberg, where in 1794 he became adjunct of the philosophical faculty. A work which he published, *Ueber die Perfectibilität der geoffenbarten Religion* (Jena and Leipsic, 1795), was the cause of his not receiving a professorship, and was followed by other works, chiefly in development of the Kantian philosophy, of which he was one of the most efficient promulgators. In 1801 he was appointed professor of philosophy at Frankfurt-on-the-Oder, and published in 1803 his principal work, *Fundamental Philosophie*, in which he proposed a system under the name of "transcendental synthetism," which, as he maintained, reconciled idealism and realism. In 1804 he succeeded Kant as professor of logic and metaphysics at Königsberg, and in 1807 succeeded Krans also as professor of practical philosophy. In 1809 he accepted a professorship of philosophy at Leipsic, which he held till 1834, when he received a pension from the state. He took an active part not only in the philosophical and religious, but also the political and social discussions of his time; was one of the presidents of the democratic society founded at Königsberg after the peace of Tilsit under the name of the *Tugend-*

Bund; joined in 1818 the Saxon corps of *chasseurs à cheval*; and was afterward a leading champion of German liberalism against Ancillon, Kotzebue, and others. Among his more important works are: *Allgemeines Handwörterbuch der philosophischen Wissenschaften* (4 vols., Leipsic, 1827-'8), and an autobiography entitled *Meine Lebensreise in sechs Stationen, von Urceus* (Leipsic, 1826).

KRUMMACHER, FRIEDRICH ADOLF, a German poet and theologian, born in Tecklenburg, Westphalia, July 13, 1768, died in Bremen, April 14, 1845. His first appointment was to the professorship of theology in the university of Duisburg. He next became pastor of the Reformed church at Orefeld, and afterward exchanged that cure for the rural living of Kettwich. In 1819 he was called to Bernburg, where he became councillor of the consistory and chief pastor, and in 1824 became pastor of St. Anschaire in Bremen. He was a voluminous writer, both in prose and poetry. His principal works are: "Cornelius the Centurion," "Life of St. John" (both translated into English, Edinburgh, 1840); "The Sufferings, Death, and Resurrection of Ohrist;" *Die Kinderwelt*, a series of sacred poems for the young; and "On the Spirit and Form of Evangelical History in its Historical and Aesthetic Relations." He is best known, however, by his fables or *Parabeln*, which appeared in 1806, and passed through many editions. They have been translated into English, and added in 1858 to Bohn's "Illustrated Library," with 40 illustrations on wood, by the brothers Dalziel. His life has been written by Möller (*Friedrich Adolf Krummacher und seine Freunde*, 2 vols., Bonn, 1849).—GOTTFRIED DANIEL, brother of the preceding, born in Tecklenburg, April 1, 1774, died in Elberfeld, Jan. 30, 1837. He was educated at Duisburg, and afterward became a popular preacher at Bärth and Wolfrath. In 1816 he was made pastor of the Reformed church at Elberfeld, and was recognized as the head of the pietists in that district. Among his most important works are *Die evangelische Heiligung* (Elberfeld, 1832), and *Tägliches Manna*, or "Daily Manna" (1838).—FRIEDRICH WILHELM, son of Friedrich Adolf, and also a conspicuous minister of the Reformed church, but a strenuous opponent of the rationalistic school of theologians. In 1843 he declined an invitation to a theological professorship at Merceburg, Penn. He is now (1860) chaplain of the Prussian court at Potsdam, and is regarded as one of the most eloquent preachers in Germany. Among his numerous works, most of which have been translated into English, are "Elijah the Tishbite," "The Last Days of Elisha," "Solomon and the Shulamite," "Sermons on the Canticles," "Glimpses into the Kingdom of Grace," &c. In 1856 appeared in Berlin his *Bussen und Stahl*.

KRUSENSTERN, ADAM JEAN, chevalier de, a Russian navigator, born in Haggud, Esthonia, Nov. 8, 1770, died in Esthonia, Aug. 12, 1846. From 1793 to 1799 he was in the Eng-

lish service. During the reign of Alexander, Krusenstern was promoted to the rank of captain in the Russian navy, and placed in command of a scientific and commercial expedition, planned by himself, and which sailed from Cronstadt, June 26, 1803, to explore the north Pacific coasts of America and Asia. One object of the expedition was to establish relations with the court of Japan. Though this was not accomplished, the expedition was of much service to the scientific world. It was described by Espenbourg, Lissjanskoi, Von Langsdorff, Tilesius, and in part by Krusenstern himself in his *Reise um die Welt in den Jahren 1803-'6* (8 vols., St. Petersburg, 1810-'12), which has been translated into many European languages (English translation by Hoppner, London, 1818; French, 1821). In 1824 Krusenstern was appointed curator of the university of Dorpat.

KRYLOFF, or KRILOFF, IVAN, a Russian fabulist, born in Moscow, Feb. 13, 1768, died in St. Petersburg, April 28, 1844. While a boy he wrote several comedies, and, having obtained a place as clerk in one of the public offices, devoted his leisure to study. In 1801, having been recommended to the empress Maria, he became secretary to Prince Gallitzin. This office, however, was purely honorary, and he spent several years at the country house of the prince, engaged in literary labors. In 1812 he received an appointment in the imperial library, and in 1830 he was made councillor of state. He wrote plays, and contributed to various journals and periodicals, but was most successful in writing fables in imitation of those of La Fontaine. Mrs. Robinson, in her work on the literature of the Slavic nations, says: "He may be truly called the favorite of the Russian nation. His fables, equally popular among all classes and conditions of life, are the first books that a Russian child reads. A considerable portion of them have been translated into French and Italian; partly by Count Orloff, at Paris, and partly by friends of the latter, ladies and gentlemen of the most fashionable society in that capital, among whom that nobleman distributed the labor of translation. He then published them with the original in Paris in 1825. The perfect harmlessness and *naïveté* of the author made him also a favorite of the government; and when he celebrated his 70th birthday, honors and distinctions of all kinds were accumulated on his head." The best German translation is by Torney (Mitau, 1842).

KSHATRIYAS. See BRAHMA.

KUEN-LUN, or KOOLKON, a mountain range of central Asia, forming the N. boundary of Thibet, and separating it from Chinese Tartary, the desert of Gobi, and the Koko-nor territory. It runs from W. to E. on the parallel of 36° N. lat., until near long. 92° E. it is broken by the irregular mountain groups around Lake Koko-nor. The Nan-shan and Kilian-shan ranges may be considered as its E. prolongations. At the W. end it is connected with the Hindoo Koosh, near its union with which it is attached on the

N. to the Bolor Tagh, a great chain running N. and S. along the E. frontier of Independent Tartary. The Karakorum range, with which the Kuen-lun is often said to be linked, is really a distinct branch of the Himalaya. The mountain of Shin-khien in the Kuen-lun chain is remarkable for a cavern emitting continual flames which diffuse for some distance an agreeable odor, probably from naphtha; it is not a volcano, but a fire spring. The highest water-shed, according to Hermann and Robert Schlagintweit, who crossed the Kuen-lun in 1856, is near the Karakorum pass, the elevation of which is 18,304 feet. The rivers Yarkand and Karakash take their rise here.

KUGLER, FRANZ THEODOR, a German writer, chiefly on art, born in Stettin, Prussia, Jan. 19, 1808, died in Berlin, March 16, 1858. His "Sketch Book," published in 1830, contained original compositions in poetry, music, and linear design, and in 1838 he published with Reinick an "Artists' Song Book." The history of mediæval art, however, occupied him chiefly, and after a visit to Italy for the purpose of collecting materials, he published in 1837 his "Handbook of the History of Painting from the Age of Constantine the Great to the Present Time," the most comprehensive treatise on the subject which has yet appeared. The approbation with which the work was received caused it to be almost immediately translated into the leading languages of Europe. In England it appeared in 8 separate parts, of which that relating to the Italian schools was translated by Lady Eastlake, with notes by Sir Charles Eastlake; and those comprehending the German, Dutch, and Flemish schools, and the French and Spanish schools, were edited by Sir E. W. Head. The whole work has since appeared in an enlarged and revised form, and is recognized as one of the most trustworthy authorities extant on the subject of which it treats. Among the other numerous works on art which Kugler has published are: "The Polychromy of Greek Architecture and Sculpture, and its Limits," in which a difficult subject is ably treated; a "Description of the Art Treasures in Berlin and Potsdam;" "History of Architecture;" "Schinkel, the Influence of his Theories of Art;" and a variety of short treatises on the present condition of the monuments of art in Germany, the methods taken in neighboring countries to preserve such works, &c. He has been almost equally industrious in other walks of literature, having published a "History of Frederic the Great," illustrated by Menzel, a "Modern History of Prussia," a volume of poems, and several successful dramas. He was also an active contributor to various periodicals devoted to art, and for several years edited the *Museum*, founded by himself in 1833, and the *Kunstblatt*, founded by Schorn. From the year 1833 he held the position of professor of the history of art in the royal academy of Berlin, and for 20 years lectured in the university of Frederic William. He is probably the most

voluminous writer on art of the century, and one whose works have done much to promote a knowledge of the subject.

KÜHNE, GUSTAV, a German novelist, born in Magdeburg, Dec. 27, 1806. He was graduated as doctor of philosophy in Berlin, and has published several novels, of which his *Klosterromane* (Leipzig, 1838) and *Die Rebellen von Irland* (1840) are the best. Less successful as a dramatist, he excels most as a delineator and critic of life and society. His *Deutsche Männer und Frauen* (Leipzig, 1851) is one of his most popular works. He has since published *Skizzen deutscher Städte und Landschaften*, and a novel entitled *Missionär und Proselyt*. He belongs to the "Young Germany" school of politicians and writers, and has done much to promote the establishment of *Kindergärten* after the plan of Froebel, and published on the subject *Fröbel's Tod und der Fortbestand seiner Lehre* (Liebenstein, 1852). He purchased from Lewald the magazine *Europa*, and has edited it since 1846.

KUMAON, a British province of Hindostan, in the lieutenant-governorship of the N. W. provinces, bounded N. E. and E. by the Himalaya and Nepal, S. W. by Rohilkund, W. by the Dehra Doon, and N. W. by the native state of Gurwal, lying between lat. 29° 5' and 30° 6' N., and long. 78° 17' and 80° 56' E.; area, 6,962 sq. m.; pop. 166,755. The surface is very diversified. The S. portion is either forest-clad plain almost destitute of water, or marsh land, while toward the N. the surface is broken by numerous mountains, some of which are among the highest in the world. The climate in the low region is sultry and deadly; in the Alpine districts, temperate, invigorating, and healthful. Earthquakes are common. The principal rivers are the Kali, Goonka, Aluknunda, and Ganges. The valleys and low lands are fertile, and in the warmer districts yield two crops annually. The tea shrub has been successfully introduced. The chief mineral productions are gold, lead, copper, and iron. The gold is chiefly found in the sands of the Aluknunda. The principal manufactures are blankets, coarse linens and cottons, and bamboo mats and baskets. A large portion of the inhabitants are engaged in the transit trade between Chinese Tartary and India. The population is composed of 3 races: Hindoos, who are the most numerous, consisting of Brahmins (of whom about 6,000 families are supposed to be scattered over the district) and Rajpoots; the Bhotias, of Tartar stock; and the Doms, who perform all menial employments. A corrupt form of Brahminism is the dominant faith. Kumaon is famous for the number of its shrines and temples, mostly situated at the confluence of its rivers. Those most celebrated as places of pilgrimage are Kedarnath, Badrinath, Deoprayag, Rudraprayag, and Vishnuprag. Kumaon was never conquered by the Mogul emperors, but was subdued by the Gorkhas in the latter part of the 18th century. It became a British province in 1815. Capital, Almora.

KURRAOHEE, a seaport town of Sind, Hindostan, on the Arabian sea, W. of the delta of the Indus, and near the frontier of Beloochistan; pop. in 1853, including the suburbs, 22,227. It is built on a plain between the sea and a range of mountains, and has a spacious harbor, obstructed however by a bar which cannot be safely crossed by vessels drawing more than 16 feet of water. A mole has been built by the British, and a road constructed from it to the town, which is about 3 m. distant. The point of Munorah, at the extremity of a promontory on the S. of the harbor, is fortified. As the only safe port in Sind, Kurrachee is an important commercial centre, and is moreover the terminus of the Sind railway, begun in 1858, which will connect it with Hyderabad on the Indus. A submarine telegraph, laid in Jan. 1860, gives it communication with Muscat and Alexandria. Kurrachee exports camels, fish, hides, tallow, ghee, oil, oil seeds, bark, saltpetre, salt, indigo, cotton, and grain, and imports metals, hardware, cottons, silks, twist, and yarn, beside having an active transit trade with Cashmere, Bokhara, Afghanistan, Thibet, and Toorkistan. It contains an English church and school.

KÜSSNACHT, a village of the canton of Schwytz, Switzerland, at the foot of the Rigi, within sight of the lake of Lucerne, at the bottom of the bay of Küssnacht; pop. about 3,000. It is celebrated for its association with William Tell. Near it is the ruined wall called Gessler's castle, although it has been discovered that it never belonged to him, and the hollow way, referred to in Schiller's tragedy of "Tell," through which the Swiss patriot shot Gessler with his unerring arrow. The hollow way has been much filled by the building of a new road. At the end of the lane stands Tell's chapel, which was originally dedicated to the "Fourteen Helpers in Need" (the Saviour, the Virgin, and the apostles).—There is another village of the same name on the lake of Zürich; pop. 2,500.

KUSTENDJI, or KISTENDJEH, a Turkish town, in the province of Silistria, on the Black sea, about 16 m. from the Danube; pop. about 3,000. It stands upon a level but elevated point of land, which almost assumes the form of a peninsula, near the termination of Trajan's wall, of which traces still exist. The port of Kustendji is shallow, but affords safe anchorage during the summer. The town was called Constantia in ancient times, after a sister of Constantine the Great, who built it, and is still called Kostantza by the modern Greeks. It now consists of about 100 thatched mud cottages. A project of connecting the Danube with the Black sea by means of a canal or railway from this place has often been discussed in late years.

KUTAIH, or KUTAYA (anc. *Cotyrium*), a town of Asiatic Turkey, in the eyalet or province of Khudawendghiar, in lat. 39° 25' N., long. 29° 15' 15" E., 180 m. from Smyrna, at the foot of the Pursak-Dagh mountain, in which rises the Pursak river (anc. *Thymbrisus*); pop.

about 60,000. It is the residence of the governor-general of Anatolia, the centre of the district where the famous Turkish carpets are manufactured, and of a considerable trade and industry, the surrounding country being extremely productive in grain, cotton, gall nuts, fruits, goats' hair, and wool. The town possesses many mosques, fountains, baths, bazaars, and fine private residences with gardens attached to them. A treaty of peace was concluded there in 1833 between Mehemet Ali and the Turkish government. Kossuth with many of his fellow exiles was detained in Kutaieh from April, 1850, till Sept. 1851. Near the town are some Phrygian remains with inscriptions.

KUTUSOFF, MIHAIL, prince of Smolensk, a Russian field marshal, born in 1745, died in Bunzlau, Prussian Silesia, April 28, 1813. He commenced his military career at the age of 16 as a corporal of artillery, and for many years was actively employed in wars against the Poles and Turks, distinguishing himself particularly in the campaigns in the Crimea, in which he was repeatedly severely wounded. In 1783 he became a general of brigade, in 1784 a major-general, and in 1790 he led the terrible assault against Ismail, at the taking of which 80,000 Turks were put to the sword. On this occasion Suwaroff, the Russian general, said of him: "He commanded the left wing of my army, but he was in fact my right arm." In 1791 he was made lieutenant-general, and in the same year contributed materially to the important victory over the Turks at Matchin, which led to the treaty of Jassy. In 1793 he was sent as ambassador to Constantinople, a position which his diplomatic address well qualified him to fill. For a number of years subsequently he filled important military and diplomatic stations under the empress Catharine II. and the emperors Paul and Alexander I.; and in 1805 he entered Germany with 50,000 men to form a junction with the Austrians, which however could not be effected until after the latter had been defeated at Ulm. Kutusoff, though inferior in force to the French, who were commanded by Napoleon in person, gave the corps of Marshal Mortier a decided check at Diernstein, thereby temporarily deranging Napoleon's plans, for which he received from the emperor of Austria the grand cordon of Maria Theresa. He was present at Austerlitz in command of the allied forces, but was not responsible for the disaster of the day, having dissented entirely from the plan of the cross march to outflank the French, the execution of which proved so fatal, and advised a postponement of a general engagement until a junction could be made with the corps of Benningsen and the archduke Charles. In the subsequent war with Turkey Kutusoff gained fresh military laurels, and concluded an advantageous peace at Bucharest in May, 1812. In August of the same year he was appointed to supersede Barclay de Tolly in command of the

Russian forces opposed to the grand army led by Napoleon against Moscow, and joined his troops about 50 leagues from Moscow, on the 29th of that month. The appearance of the veteran, then nearly 70 years of age, inspired confidence and enthusiasm among the Russians, who were dissatisfied with the Fabian tactics of his predecessor, and were clamorous to be led against the French. Kutusoff's judgment seems to have failed him on this occasion, or to have been mastered by his jealousy of Barclay, for he immediately abandoned the strong position selected by the latter at Tzarevoye Zamishtche, and occupied a much less favorable one at Borodino, where on Sept. 7 he hazarded a battle against the whole French army led by Napoleon in person. Although the issue of that terrible conflict was clearly in favor of the French, the Russians losing 52,000 men, and being obliged to resign Moscow, the national pride of the latter was gratified by this obstinate stand against their enemy, who lost 80,000 men, and Kutusoff received in recompense a field marshal's baton. He subsequently concentrated his forces at Valutino, midway between Moscow and Kalooga, and watching his opportunity, routed the French advanced guard under Murat and Poniatowski at Vinkovo, Oct. 18, an event which precipitated the retreat of Napoleon from Moscow. On the 24th was fought the obstinately contested battle of Malo Jaroslavetz, by which, although the French remained masters of the field, Napoleon was checked in his advance toward the rich province of Kalooga, and compelled to retreat along the wasted line of the Smolensk road. Following the enemy with ceaseless activity, Kutusoff defeated the corps of Eugene Beauharnais at Smolensk, Nov. 16, and on the 2 succeeding days attacked with equal success those of Davoust and Ney at Krasnoi, capturing in these engagements 26,000 prisoners and over 200 pieces of cannon, and inflicting a loss of 10,000 men upon the enemy, his own troops losing but 2,000. As a reward for the skilful manoeuvres which had brought about these successes he was created prince of Smolensk. After the terrible passage of the Beresina he pursued the French more leisurely, foreseeing that the elements would prove sufficiently destructive to them; and upon entering Wilna, where he met the emperor Alexander, in December, he found the campaign virtually ended, although the pursuit was continued as far as Kalisz, where the Russians paused, almost exhausted, in the latter part of January. Having issued from this place a proclamation announcing the dissolution of the confederacy of the Rhine, and calling upon its members to join in the league formed for the deliverance of Germany, he crossed the Oder, and following on the traces of the enemy, reached Bunzlau in Prussian Silesia, where his constitution, enfeebled by the rigors of the campaign, yielded to an attack of malignant typhus fever.

KUYP, ALBERT. See **CURR.**

L

L the 12th letter of the Phœnician and other Semitic graphic systems, named *lamed* (*mal'mād*, ox goad), is also the 12th (λαμβδα) of the ancient Greek (now the 11th, the *digamma* being dropped), Coptic, Armenian, Georgian, Russian (*liudi*; but the 15th Cyrillic and 14th Glagolitic), and most modern European systems; the 14th Rune, the 2d in the Ethiopic and Amharic syllabary, and in the Irish *Bobe-loth*; the 28d in Arabic, 27th in Persian and Turkish; the 11th in Latin. It is one of the 4 Liquids of grammarians (*l, m, n, r*), and of the 4 *akshara yavarga* (*ya, ra, la, va*) or semi-vowels in the Devanagari. Its hieroglyph was *laboi*, lioness. The sound is produced by placing the tip of the tongue against the upper incisor teeth, while the breath issues at its sides and the larynx vibrates; and it is hence called a lingual-dental. As a liquid sound it is the symbol of flowing, soft, mild things (*liquor, lenis, mollis, lae*, &c.); as a semi-vowel it is producible and the symbol of linear objects (*longus, linea, linum, ligare, latus, lentus*, &c.), also akin to vowels; by its genesis it is kindred with *d, t, s* (*lingua*, ancient Latin *diqua*, whence *tongue*, German *Zunge*; *λεγω, loquor, dico, signum, sic, doceo*, Eng. *token*, &c.). Priscian attributes to the Latin *L* 3 sounds, one full, one middle, and one slender. There are, indeed, 4 sounds in the European languages alone, viz.: *a*, the plain sound, as in *let*; *b*, the French *muillé*, which is variously written, as in French *aïl, œil, fille, grenouille, Milhau, gentilhomme*, &c.; Spanish *llamar* (Lat. *clamare*), *lleno* (*plenus*), &c.; Portuguese *lhano* (*planus*), *mulher* (*mulier*), &c.; Magyar *hely*, place, *folyó*, river, &c.; Italian *meglio*, &c.; *c*, the Polish, Ruthenic, and Lusatian-Vendic barred *z* pronounced by pushing and swelling the tongue to the palate, as in Polish *ptwca*, Ruth. *petechaty*, Gr. *πελος*, black-gray; *d*, the Welsh *ll*, pronounced with a hissing, as in *llân* or *llân*, temple, *Lloyd*, &c., almost as if written *fl*, as in *flannel* (Lat. *lana*, wool).—Some nations and persons cannot pronounce *l*, as for instance the Japanese, who use *r* in its stead, as in *Sagarien* for *Saghalien* or *Amoor*. The Chinese, on the contrary, unable to utter *r*, always substitute *l*, as in *Kilist* for *Christ*. There was no *L* in Zend. It is often mute in English before consonants, as in *could, calm, half, psalm*, &c., and when final in some French words, as in *baril, outil, sourcil*, in *fla*, &c. In Latin it was anciently not doubled, as in *ma-celum, polu-cere*; it is often introduced into Latin words for the sake of assimilation, as in *alligare, pellucere, intelligere* (from *ad, per, in-tor*), &c.; it frequently indicates diminution, as in *libellus, agellus, pavillum* (from *liber, ager, parum*), &c., and distinguishes many words of

political and religious import, ending in *alia*, from those of common things which end in *aria*, *arius*; thus: *auguralis, regalis, ritualis*, &c.; but *militaris, culinaris, aquarius, vestiarium*, &c.—The letters with which it interchanges are *r, n, m, d, i, u*. Examples: *sol*, Eng. *sun, summer*, Lat. *ser-enus*; Portug. *nobra, praezer, igreja*, &c., for *noble, placer, ecclesia*; Span. *engrudo* (gluten), &c.; Fr. *apôtre, épître, orme*, from *apostolus, epistola, ulmus*, &c.; *frapper*, to flap; Eng. *pilgrim*, from *peregrinus*; Span. *peligro*, from *periculum*; Eng. *colonel*, pronounced *kurnel*; Hebrew *sharah'rah*, Arab. *silsil*, chain, &c.; Gr. *λειον*, Lat. *lilium*, *λυμφη*, *lymphæ*, *βεννιστος* and *βελτιστος*; Lat. *lutra*, Span. *nutria*, otter; Provençal, *namela*, Lat. *lamella*; Fr. *niveau*, Lat. *libella*; Wallach. *funingine*, Lat. *fuligine*; Heb. *nâtan*, Syr. *natah*, to give; Heb. *teelem*, Arab. *banam*, image, &c.; Heb. *gulgolet*, Arab. *djumdjumat*, skull, &c.; Gr. *Ὀδυσσεύς*, Ulysses; Lat. *olere* and odor; Fr., Span., &c., *amidon*, from *apudow*; Chald. *zeal* and *zead*, to go away, &c.; Ital. *fiore, chiamare, bianco*, &c., for *fiore, clamare, blanco*; Gr. *ἄλλος, φῦλλον*, Lat. *alius, folium*, &c.; Fr. *cou, mou, coucher, beau, chaud, il vaut, il faudra, chevaux*, &c., for *col, mol, colchier* (*collocare*), *bel, calx, valet, falloir, cheval*; Dutch, *oud, goud*, &c., Eng. *old, gold*; Eng. *stout*, Germ. *stolz*.—*L* is sometimes dropped, as in Ital. *arvinto* for *labinento*, *uisignolo* for *luisignuolo* and *rossignuolo*, Span. *ruiseñor* (Lat. *lusciniola*); Portug. *o, a*, article, for *lo, la*; *candêa, côr, cauda, taes, voar*, &c., for *candela, color, salute, tales, volere*; *azuro*, Span. *azul*, from Persian *lasur*, blue, &c. It is sometimes also transposed: Span. *prestadle, ornaldas, espalda*, &c., for *prestadle, ornadlos, spatula*; and *milagro, palabra*, Portug. *pulvigo, emola*, &c., from *miraculum, parabola, publico, elemosyna*; Ital. *padule*, Wallach. *plumena*, &c., for *palude, pulmone*.—As a numeral sign, *L* denotes 80 in the Semitic (except Ethiopic, where it marks 2), Greek, Russian, Armenian, Cyrillic, and Georgian; 50 in Latin and Glagolitic (in the former as being a half of the ancient *L* or *O*, *centum*). A dash above it raises these values to as many thousands. In rubrication it marks 11. In abbreviations it stands for *Lucius, Lælius, Lares, libens, libertus, locus, latus*, &c. *LLS.* stands for *sestertium numus*. On French coins it stands for Bayonne.

LAALAND, an island in the Baltic belonging to Denmark, lying between lat. 54° 39' and 54° 57' N., and long. 10° 56' and 11° 50' E.; greatest length 60 m., breadth 20 m. The district of Laaland comprises the island of that name, Falster, and several small islands; area, 647 sq. m.; pop. in 1858, 84,096. The surface

is low, level, and mostly marshy. The water is bad, and the climate unhealthy, but the soil is fertile. There is a lake called Mariaboe near the centre of the island, which is almost 5 m. in length. Capital, Mariaboe.

LABADIE, JEAN DE, a French mystic, born in Bourg-en-Guienne, Feb. 13, 1610, died in Altona, Holstein, Feb. 13, 1674. He was educated at the Jesuits' college of Bordeaux, and was for some time a member of that society; but in 1650 he became a Protestant, settled at Montauban, was elected pastor of the church, and remained there 8 years, during which he founded a mystical sect, resembling the quietists of his old communion, and called after himself Labadists. Having been at length banished from Montauban for sedition, he retired first to Orange, and subsequently to Geneva, whence in 1666 he was invited to Middleburg, Holland. Here his followers increased in number, and included many persons of rank and education, among whom were Anna Maria von Schurmann and the princess palatine Elizabeth. The heterodoxy and contumacy of Labadie, however, led to his deposition by the synod of Naarden, and to his banishment from the province. Withdrawing to a small village near Amsterdam, he formed a church there, and established a press for the publication of his theological and controversial works, whence he was ultimately compelled to remove to Altona. The sect of which he was the founder does not now exist.

LABARRE, CHEVALIER DE. See **BARRE**.

LABARUM, the military ensign of the Roman emperors in the later times. It consisted of a long pike, traversed by a staff, which gave it the form of a cross, from which hung a bandrol of purple, adorned with gold and precious stones, and bearing on its summit a crown emblazoned with the monogram of Christ, which was added by Constantine. The labarum, called by Eusebius the saving standard of the empire, was intrusted to a chosen guard of 50 soldiers, who were believed to be invincible while engaged in the execution of their office. On the medals of Constantine and other Christian emperors it is represented as borne by Victory.

LABAT, JEAN BAPTISTE, a French missionary and historian, born in Paris in 1663, died there, Jan. 6, 1738. He entered the order of the Dominicans in 1685, taught philosophy at Nancy, afterward devoted himself to preaching, and in 1693 solicited an appointment as missionary to the Antilles. After remaining two years at Martinique, he passed in 1696 to Guadeloupe, where he established a station of his order, and also distinguished himself as an engineer and agriculturist. On his return to Martinique he was appointed *procureur général* of the mission, and for his diplomatic and scientific services was held in great esteem by successive governors. He explored the archipelago of the Antilles, founded in 1703 the city of Basse-Terre, and in that year took an active part in the defence of the island against the English. He organized a company of 60 negroes, who, as he said, destroy-

ed more of the enemy than all the French troops. By the decease of his associates, he gradually united in his own person nearly all the higher offices of his order in the Antilles, and in 1705 returned to Europe to obtain recruits. He was detained by his superiors at Rome till 1709, and at Civita Vecchia till 1716, after which he went to Paris, where he remained till his death. His principal works are *Nouveau voyage aux îles de l'Amérique* (6 vols. 12mo., Paris, 1722), *Nouvelle relation de l'Afrique occidentale* (5 vols., 1728), and *Voyage en Espagne et en Italie* (8 vols., 1730).

LABDANUM. See **LADANUM**.

LA BILLARDIERE, JACQUES JULIEN HOUTON DE, a French traveller and naturalist, born in Alençon, Oct. 23, 1755, died in Paris, Jan. 8, 1834. After studying botany at Montpellier, he was graduated M.D. in Paris in 1780. Six years later he was sent on a scientific mission to Syria and Palestine, made a thorough exploration of the mountains of Lebanon, and brought back a valuable collection of plants. The results of his journey were published in his *Icones Plantarum Syriæ Rariorum Descriptionibus et Observationibus Illustratis* (4to., Paris, 1791-1812), with elegant drawings by Redouté. When the expedition under Entrecasteaux was sent in search of La Pérouse in 1791, La Billardière sailed on board the *Recherche*, spent a few months at the Cape, where he collected a number of plants, visited many of the large islands and archipelagos in the Pacific ocean, barely escaped shipwreck on the coast of Australia, and was finally taken prisoner at Java by the Dutch in Oct. 1798. His botanical collections, consisting of no fewer than 4,000 plants, three fourths of which were of species previously unknown, were carried to England; but when, after a captivity of nearly two years, he returned to his native country, they were courteously returned to him through the intervention of Sir Joseph Banks. In 1800 he was elected a member of the academy of sciences, and thenceforth devoted his whole time to arranging his botanical treasures and to publishing the results of his observations.

LABLACHE, LUIGI, an Italian singer, born in Naples, Dec. 6, 1794, died there, Jan. 28, 1858. His father, a French merchant from Marseilles, dying in 1799, young Lablache was, at the recommendation of Joseph Bonaparte, placed in one of the conservatories of Naples, where he studied vocal and instrumental music. He was of an idle and unruly disposition during his first connection with this institution, and attempted no fewer than 5 times to make his escape, in order to procure an engagement in some theatre. Having been compelled by the interference of the police to finish his studies, he made his début in 1812 at the little theatre of San Carlino as a buffo singer. Within a few months he was married to the daughter of the actor Pinotti; and after fulfilling engagements as basso and buffo at minor theatres in Naples, Messina, and Palermo, he appeared in 1817 at

the Scala theatre in Milan in Rossini's *Cenerentola*, with such success that Mercadante wrote for him the opera of *Elisa e Claudio*, and for several seasons he filled the leading basso parts in that city. In 1824 he sang for the first time before the Viennese, who in their enthusiasm caused a medal to be struck in his honor, and thenceforth held him in equal estimation with their favorites, Madame Fodor and Rubini. After an absence of 12 years Lablache returned to Naples to assume the duties of royal chapel-master and fill an engagement at the San Carlo theatre, and appeared in the works of Rossini and Bellini with great reputation. In 1880 he went to Paris and London, where, in the maturity of his powers, he made his début at the Italian opera in the character of Geronimo in *Il matrimonio segreto*. Thenceforth until within a short time of his death, with the exception of the year 1883, when he returned to Naples to sing in the *Elisir d'amore*, he appeared chiefly in Paris and London, devoting the winter to the former place and the spring to the latter. During the last 25 years of his life he held the position of the leading basso of his own and perhaps of any other time. His voice, a base of the purest quality, unsurpassed in resonance, in flexibility and compass, was not less remarkable than his artistic skill in the management of it, and his dramatic versatility. His range included every variety of dramatic music, from lofty declamation to the broadest buffo, in all of which he attained a high degree of excellence. Originally of an imposing and graceful presence, he became exceedingly corpulent in middle life, although this circumstance never detracted from the impressiveness of his performance in serious parts; and his name will be not less closely associated with the operas of *Norma*, *Anna Bolena*, *Semiramide*, or *I Puritani*, than with the comic extravagances of Leporello, Dr. Bartolo, Dr. Dulcamara, or Don Pasquale. In private life he was distinguished by social accomplishments and virtues, and enjoyed the esteem of many outside of his profession. He was at one time employed as singing master of the queen of England, of whom he was a special favorite. —His only daughter is the wife of Thalberg the pianist.

LABOR, in physiology. See BIRTH.

LABORATORY, a place for chemical operations, either designed for manufacturing purposes, or for experimental research. In the latter case it should properly comprise several rooms, one or more devoted to furnace operations and furnished with the requisite apparatus for these, as also with various tools adapted for small work in metals. Another room should be appropriated to the more delicate chemical operations, and all should be well ventilated by flues constructed expressly for carrying off noxious vapors. An apartment especially protected from these should be devoted to the balance and other delicate instruments that are liable to injury. Water as pure as possible should be supplied in unlimited quantity; and illuminat-

ing gas, for use by the various methods now conveniently employed as fuel for heating crucibles and other vessels, has become almost an essential element in modern laboratories. For details of the fitting up and furnishing of laboratories with apparatus and the use of the same, Faraday's "Chemical Manipulation" may be advantageously consulted; and no laboratory would be complete without this work always at hand for reference. See also "Chemical and Pharmaceutical Manipulations," by Campbell Morfit (Philadelphia, 1857).

LABORDE, JEAN BENJAMIN DE, a French author and composer, born in Paris, Sept 5, 1784, guillotined July 22, 1794. He belonged to a wealthy family, and was thoroughly instructed in all the accomplishments of the age, including music, for which he showed a great fondness. Introduced at court while a young man, he became a confidant and favorite of Louis XV., and dissipated in costly pleasures nearly the whole of his fortune. He did not neglect however to cultivate his taste for music, and during the life of his patron produced several successful operas. Upon the death of Louis, having been appointed one of the farmers-general of the kingdom, he married and led a more regular life, repairing by the profits of his office the losses incurred by his youthful follies. He also gave himself seriously to his musical studies, and in 1780 published his *Essai sur la musique ancienne et moderne* in 4 vols., an unequal work, but one containing speculations and information which are still regarded as of great value. He published also several other works on history, chronology, and geography. At the breaking out of the revolution he became obnoxious in consequence of the office he held, and retired to Rouen; but being discovered, he was arrested, brought back to Paris, tried, condemned, and executed.

LABORDE, JEAN JOSEPH, marquis de, a French financier, born in Jacca, Aragon, in 1724, guillotined in Paris, April 18, 1794. He amassed a large fortune in mercantile operations, and under the Choiseul ministry rendered important financial assistance to the French government, for which he was rewarded by the appointment of court banker and the title of marquis. When the French took part in the American war, he furnished the king with the money necessary for despatching the troops. He was a friend of Voltaire, whose affairs he managed gratuitously. Toward the end of 1793 he was arrested, and, after a few months' imprisonment, sentenced to death by the revolutionary tribunal, as having participated in the royalist plots which aimed at the subversion of the republic. —ALEXANDRE LOUIS JOSEPH, comte de, son of the preceding, a French writer, archæologist, and politician, born in Paris, Sept. 15, 1774, died in 1842. He was sent to Vienna at the beginning of the French revolution, entered the Austrian army, reached the rank of major, and returned to his native country after the treaty of Campo Formio, 1797. He then de-

voted himself to travels and artistic pursuits. In 1800 he accompanied Lucien Bonaparte, ambassador to Spain, in the capacity of *attaché*, and during nearly two years explored the various provinces of the peninsula, in company with a number of artists, whose expenses he paid from his own purse. On his return to France, he undertook the publication of his great work, *Voyage pittoresque et historique de l'Espagne* (4 vols. large fol., 1807-'18), which cost him the best part of his fortune. In 1809 he was appointed master of requests in the council of state, and in 1814, as adjutant-major of the national guard, took part in the capitulation of Paris, and received honorary distinctions at the hands of Louis XVIII. In 1822 he was elected to the chamber of deputies, and kept his seat almost without interruption until 1840. He took an active part in the revolution of 1830, held for a while the office of prefect of the Seine, and left it to become aide-de-camp to Louis Philippe, with the rank of brigadier-general in the national guard. He was a member of the academy of inscriptions, and of the academy of moral and political sciences. Beside the *Voyage de l'Espagne*, he published: *Itinéraire descriptif de l'Espagne* (5 vols. 8vo., with an atlas, 1809); *Les monuments de la France, classés chronologiquement*, &c. (fol., 1816-'26); *Voyage pittoresque en Autriche, avec un précis de la guerre entre la France et l'Autriche*, 1809 (3 vols. fol., 1821-'3), &c.—LÉON EMMANUEL SIMON JOSEPH, comte de, son of the preceding, a French writer and archaeologist, born in Paris, June 18, 1807. After completing his classical studies at the university of Göttingen, he travelled in the East, and on his return published, in conjunction with M. Linant, his *Voyage de l'Arabie Pétrée* (Paris, 1830-'33), and *Flore de l'Arabie Pétrée* (4to., 1833). He meanwhile filled several diplomatic offices, but gave them up in 1836 to devote himself entirely to his literary and artistic pursuits. He undertook at once a large and splendid publication, *Voyage en Orient*, 36 parts of which, consisting of travels in Asia Minor and Syria, have appeared. At the same time he turned his attention to historical researches on printing and engraving, and published several works on this interesting subject. In 1842 his *Commentaire géographique sur l'Exode et les Nombres* secured his election to the academy of inscriptions. On his father's retirement from political life, he entered the chamber of deputies, where he showed little interest in political questions. In 1845-'7 he published a series of letters on public libraries, the 4th of which, on the Mazarin palace, is full of historical interest. This led him to a larger illustrated publication, *Les monuments de Paris*, the first part of which was published in 4to. in 1846. He is also the author of the following unfinished works: *Les ducs de Bourgogne, études sur les lettres, les arts et l'industrie durant le 15^e siècle* (3 vols. 8vo., 1849-'51); *La renaissance des arts à la cour de France, études sur le 16^e siècle* (8vo., 1851-'5); and *De l'union*

des arts et de l'industrie (2 vols. 8vo., 1856). After being for several years keeper of one of the departments at the Louvre, he was appointed in 1857 director of the archives of the empire.

LA BORDE, MAXIMILIAN, an American physician and scholar, born in Edgefield, S. C., in 1804. His father was a Frenchman from Bordeaux, and he himself is the sole survivor of the family. He entered the junior class of the South Carolina college, was graduated at the age of 16, studied law under George McDuffie, afterward abandoned the legal for the medical profession, and was graduated (1826) in the first class of the medical college of South Carolina, then recently established at Charleston. He practised his profession 18 years, during which period he sometimes represented the people of Edgefield district in the lower house of the state legislature, and edited the "Edgefield Advertiser" newspaper in 1836. In 1838 he was elected secretary of the state. He was then made one of the board of trustees of the South Carolina college, and in 1842 accepted the chair of logic and belles-lettres in that institution. In 1845 he was transferred to the chair of metaphysics, and at his suggestion physiology was made a part of the college curriculum. He taught chiefly by lecture till 1855, when he prepared and published a text book on physiology, which is highly esteemed. He has been a frequent contributor to the "Southern Quarterly Review" on a variety of abstruse and important subjects; and has contributed also to Russell's and other southern magazines. In Aug. 1859, he published an elaborate "History of the South Carolina College, with Sketches of its Presidents and Professors," embodying a large mass of interesting biographical matter.

LABOUCHERE, HENRY, Baron Taunton, an English statesman, born in London, Aug. 15, 1798. His father, Peter Caesar Labouchere, whose ancestors left France at the period of the revocation of the edict of Nantes and became established in Holland, was a partner of the banking house of Hope and co. of Amsterdam, and settled in England, where he married a daughter of Sir Francis Baring. The son was graduated at Oxford, and in 1826 entered parliament as member for the borough of St. Michael's. About the same time, in company with Mr. Stanley, now earl of Derby, and Mr. Denison, now speaker of the house of commons, he visited America, in order to study the operation of republican institutions. The result was to confirm him in his liberal opinions, and he has long been recognized as one of the most prominent leaders of the British liberal party. He continued to sit for St. Michael's until 1830, when he was returned for Taunton, retaining this position by successive reelections until 1859, when he was raised to the peerage. In 1882 he was made one of the lords of the admiralty. He resigned in 1884, and in April, 1885, was appointed vice-president of the board of trade, master of the mint, and privy councillor. In March, 1889, he became under secre-

tary for the colonies, and a few months later president of the board of trade, retaining office until the whig party went out of power in 1841. On the change of ministry in 1846 he was made chief secretary for Ireland. From 1847 until the dissolution of the cabinet in 1852 he was again president of the board of trade, and from 1855 to 1858 secretary of state for the colonies. Mr. Labouchere has been twice married: on April 10, 1840, to his cousin, a daughter of Sir Thomas Baring, who died in 1850; and on July 13, 1852, to Lady Mary Matilda Georgiana Howard, a daughter of the 6th earl of Carlisle.

LABOULAYE, EDOUARD RENÉ LEFÈBRE, a French author, born in Paris, Jan. 18, 1811. He studied law, and published in 1839 a *Histoire du droit de propriété foncière en Europe depuis Constantin jusqu'à nos jours*. He has also written on the political and civil condition of women from the time of the Romans to the present day, and on various kindred subjects. He is engaged upon a "History of the United States," of which the 1st volume appeared in 1855. He has translated the works of Dr. Channing into French, and has written an elaborate essay on slavery in the United States. Among his more recent works are *Souvenirs d'un voyageur* (1857), and *Études sur la propriété littéraire en France et en Angleterre* (1858). He has been since 1849 professor of comparative legislation at the *Collège de France*.

LABOURDONNAIE, BERTRAND FRANÇOIS MAHÉ DE, a French naval officer, born in St. Malo, Feb. 11, 1699, died Sept. 9, 1753. He was governor of the isles of France and Bourbon, and conquered Madras, but was afterward detained for 3 years at the Bastille for having relinquished its possession to the English in consideration of 9,000,000 crowns. His life was written by his grandson, Bertrand François Mahé, a famous actor, who was born in 1795, and died in London in Feb. 1840.

LABRADOR, an extensive peninsula of British North America, on the Atlantic coast, comprising in its fullest sense all that territory which is bounded N. by Hudson's strait, E. by the Atlantic, S. E. by the strait of Belle Isle, separating it from Newfoundland, S. by the gulf of St. Lawrence and Canada, and W. by James's bay and Hudson's bay; being comprised between lat. 50° and 63° N., and long. 56° and 79° W.; area, 420,000 sq. m. The W. part of this territory belongs to the Hudson's bay company; the E., with an area of 170,000 sq. m., and a population of 5,000, is Labrador proper, under the jurisdiction of Newfoundland. The coasts are extremely rugged and forbidding. No considerable rivers empty off the Atlantic coast, but the North West or Meschickemau river flows S. E. into the strait of Belle Isle; the East Main or Stude, and Great and Little Whale rivers, run W. to Hudson's bay; and the Keenoganissee and Koksoak, after a N. and N. W. course, discharge into Hudson's strait. There are many lakes, formed chiefly by expansions of the rivers. The most important is Clear

Water lake, whose overflow is carried by a stream of the same name to Hudson's bay. The interior of the country is imperfectly known. Its general aspect is bleak and desolate. The highest mountains extend along the E. coast from lat. 54° to 59° N., their elevation nowhere exceeding 3,000 feet. Mount Thoresby near the coast is 2,780 feet high. The prevailing geological formation on the seaboard is granite, gneiss, or mica slate, above which in some places are beds of old red sandstone about 200 feet thick, and a stratum of secondary limestone. Toward the interior the secondary rocks disappear. Very little is known of the mineral resources of the country, but iron ore, limestone, granite, hornblende, lapis-ollaria, hematite, and the beautiful shining spar called Labradorite are found, the last being collected by the Esquimaux on the sea coast and the shores of the lakes. In the southern portion of the country a stunted growth of poplars, pines, birch, and willow is found, and grass clothes the valleys for a few weeks in summer. Little vegetation exists in the north excepting mosses and lichens. In some few favored spots the aspect is better. In lat. 58° 57' N., along the course and mouth of the river Kangerluksok, the banks are well wooded, and various European plants flourish. In lat. 59° N., around Nullatlok bay, the mountains are covered with timber. At L'Anse à Loup the soil is more suitable than elsewhere for cultivation. No description of grain will ripen, but potatoes, Dutch turnips, cabbages, and other hardy vegetables come to perfection. Much rain falls in summer near the sea. Sometimes on the coast the thermometer in July indicates 86°, but a short distance inland it is at all times more temperate. The winters are extremely cold, the temperature often falling 80° below the freezing point. From December to June the sea is frozen, while on land travelling becomes almost impossible. The mean temperature of the respective months at the missionary stations of Okkak (lat. 57° 30') and Nain (lat. 56° 30') is in January 1.55°, February 2.73°, March 7.88°, April 29.48°, May 27.24°, June 42.59°, July 50.91°, August 51.99°, September 44.71°, October 32.56°, November 24.45°, December 27.84°. The prevailing winds on the E. coast vary between W. S. W. and N. W. There is less fog than on the island of Newfoundland, and the strait of Belle Isle is never frozen. The aurora borealis is frequent and of extreme brilliancy. The rivers abound with salmon, and the lakes with pike, barbel, eels, trout, &c.; the wilds with reindeer, black and white bears, wolves, foxes, hares, mountain cats, martens, and otters, with a few ermines, porcupines, and beaver; the birds are white grouse, ptarmigan, spruce game, gray plover, a great variety of water fowl, the white-tailed eagle, and several varieties of hawks. Mosquitoes are as abundant as in more southern climates. Dogs and reindeer are the only domesticated animals, both being made use of as beasts of draught.—The natives of Labrador, consisting chiefly of Esquimaux,

subsist by hunting and fishing. Over 1,800 are professed converts to Christianity. They live in detached communities, their largest village, of 250 inhabitants, being at Inuvutoke inlet, or Esquimaux bay, on the Atlantic. They bring to the traders a considerable amount of furs and oils, in exchange for coarse cloths, muskets, powder, and cutlery. Until recently, hostilities were continual between the natives of the coast and those of the hills, but the influence of the Moravian missionaries has done much to restore peace. The missionaries came from Greenland about a century since. Their chief stations are at Nain, Okkak, Hebron, and Hopedale, and their total number is 28. A ship annually arrives from London with supplies for them, in exchange for the articles of trade which they barter with the Esquimaux. The main wealth of Labrador is in its fisheries, in which about 800 British schooners with 20,000 persons, chiefly from Newfoundland, Nova Scotia, New Brunswick, and Canada, are each season engaged, in addition to 400 American schooners with about 6,000 men. Each man catches on an average 100 quintals of codfish; and the oil is in the proportion of 1 ton to 200 quintals. Herring and mackerel fisheries are carried on by the same persons. About half the product goes to American markets, the remainder chiefly to England, Lisbon, and the Mediterranean. The product of the salmon fisheries averages annually 30,000 tierces. A considerable number of persons who are left in charge of the property when the schooners sail in September, employ themselves in seal fishing. From 16,000 to 18,000 seals, producing about 850 tons of oil, may be estimated as the average annual product. Beside fish and oil, skins, furs, and feathers are exported. The total exports of Labrador have been estimated at \$2,500,000 annually, and the imports at \$600,000. A more recent estimate gives the total value at \$4,000,000. The government report of 1857 records an increased state of activity. A British revenue cruiser is stationed on the coast during the fishing season.—The European settlements of Labrador are mainly at Forteau and Bradore bays, L'Anse, and Le Blanc, all on the E. coast. The Portuguese styled the country *Terra Labrador*, or cultivable land, a misnomer equal to that of Greenland. Hudson explored part of the coast in 1610. About the middle of the last century a settlement was formed on the coast by Mr. Darby, an American, father of the actress and poetess Mrs. Robinson, for the twofold purpose of establishing a whaling station and civilizing the Esquimaux, whom he thought it would be possible to employ in industrial occupations. But soon after the formation of the settlement, the main body of the Indians made a descent upon it, murdering many of his people and sending the products of their toil adrift into the ocean. Mr. Darby had relied for maritime protection upon promises of persons in power in England, but those promises not having been kept his settlement was destroyed, his

benevolent projects frustrated, and his extensive undertaking brought to an unfortunate close.

LABRADORITE. See FELDSPAR.

LA BRUYÈRE, JEAN DE, a French moralist, born near Dourdan, Normandy, about 1644, died in Versailles, May 11, 1696. At the recommendation of Bossuet he was appointed teacher of history to the grandson of the great Condé, in whose service he remained for the rest of his life in a literary capacity and in the enjoyment of a pension of 1,000 crowns. He was admitted a member of the French academy in 1693, and left the reputation of a genial philosopher, whose happiness consisted in cultivating the best society and in reading the choicest books. His power of observation and his literary attainments are attested by his celebrated *Caractères*, founded upon the "Characters" of Theophrastus, which he translated into French and prefixed to his own. Hallam says that he incomparably surpassed his Greek model. "Many changes in the condition of society, the greater diversity of rank and occupation in modern Europe, the influence of woman over the other sex, as well as their own varieties of character and manners, the effects of religion, learning, chivalry, royalty, have given a range to this very pleasing department of moral literature which no ancient could have compassed." When La Bruyère showed his work in MS. to the preceptor of the duke of Maine, he was told that the book would have many readers and its author many enemies. The 1st edition appeared in the beginning of 1688. Voltaire says: "A style rapid, concise, and nervous, expression animated and picturesque, a use of language altogether new, without offending against the established rules, struck the public at first; and the allusions which are crowded almost in every page completed its success." Three editions were exhausted in the first year of its publication, and 6 more before the author's death. La Bruyère left also an unfinished work, published in 1699 under the title of *Dialogues posthumes sur le quêtisme*, and contained in an edition of the works of La Bruyère, La Roche-foucauld, and Vauvenargues (Paris, 1820). Many editions of La Bruyère's "Characters" were published after his death in Holland and France. The first complete edition based upon the original work was prepared by M. Walekenær (Paris, Didot, 1845), followed by an improved edition by M. Destailleur (Paris, Jannet, 1855), and an edition by Gennequin the elder with illustrations (1858). The English translation by the poet Rowe (London, 1709) has been often reprinted. In Nov. 1857, the authorities of Versailles placed an inscription in front of the house in which he lived and died.

LABUAN, a British island in the Malay archipelago, on the N. W. coast of Borneo, in lat. 5° 22' N., long. 115° 10' E.; length 10 m., breadth 5 m.; pop. in 1855, 1,523, with a garrison of 178 soldiers. It has a good harbor. The entrances in 1855 numbered 333 and the clearances 17 vessels; the imports (cottons, &c.) amounted to £26,935, and the exports (sago,

coal, beeswax, &c.) to £7,940. The quantity of coal sold from the mines was 9,155 tons in 1853, but only 1,894 in 1855. The number of acres planted with coconuts, &c., up to 1857, was 116. The revenue in 1855 was £1,794, and the expenditures £3,416. The climate is bad, and dangerous fevers prevail. The island is divided into two districts, Labuan and Tanjong Kubong. An episcopal see was created there in 1855. The settlement of this island dates from 1846, when, through the influence of Sir James Brooke, the rajah of Sarawak, it was ceded to Great Britain by the sultan of Brunei.

LABURNUM (*cytiscus laburnum*, Linn.), a small, hardy, ornamental, deciduous tree of the lotus division of the leguminous order. The common laburnum was introduced from Switzerland into Great Britain near the close of the 16th century, and is now largely cultivated as an ornament to shrubberies, villas, and small gardens. In May and June it presents a beautiful appearance, every twig and small branch being hung with racemes of brilliant yellow flowers. Its wood is largely used for ornamental work, and for handles to knives and other instruments. It is hard, and so heavy that the branches sink in water. It takes a high polish, and has a greenish color. The French call it the ebony of the Alps. Rabbits are so fond of its bark, that they eat it in preference to that of any other trees. The seeds are highly poisonous, and their great profusion and brilliant appearance render it somewhat objectionable to cultivate the tree from the danger of children or cattle being tempted to eat them. The alpine or Scotch laburnum (*cytiscus alpinus*) attains a greater size than the other species, which are usually less than 8 feet in height.

LABYRINTH, a structure of intricate passage ways which it is impossible to traverse without a clue. Three labyrinths are mentioned in ancient story. The best authenticated is the labyrinth of Egypt, situated at Arsinoë, near Lake Moëris. Herodotus visited and describes it. It consisted of 3,000 chambers, half of them below ground, the subterranean apartments being sacred burial places. It was extant in Pliny's time. Ruins at the modern village of Howara in Fayoom have been recently identified by Dr. Lepsius with those of the labyrinth. Another structure, on a smaller scale but on the model of that of Egypt, was reported to have been built near Cnosus in Crete, by Dædalus, as a place of confinement for the fabled monster the Minotaur; but antiquaries discover nothing more labyrinthine in the locality indicated than the caves and quarries of Mount Ida. The 3d labyrinth was in the isle of Lemnos, but no remains of it have been traced. A similar structure was said to exist on the island of Samos, and another, called the labyrinthine tomb of Porsena, near Clusium, in Etruria.

LABYRINTHODON (Gr. *λαβυρινθος*, labyrinth, and *odous*, a tooth), a gigantic fossil reptile, so named by Prof. Owen from the complex labyrinthine structure of the teeth; the same an-

imal had been previously called *cheirotherium* by Kaup, from the resemblance of its tracks to impressions of the human hand. This animal, which possesses both saurian and batrachian characters, probably most nearly resembled a gigantic frog about 10 or 12 feet in length. A historical sketch of the discoveries in connection with this reptile may be found in the "Proceedings of the Boston Society of Natural History" (vol. v., 1856, p. 298), and full details on its affinities in the "Annals and Magazine of Natural History" (vol. viii., London, 1852, pp. 805-813). Footprints and bones of the labyrinthodon have been found in the trias of England and Germany; from an examination of the head and teeth, vertebrae, pelvis, and bones of the extremities, Prof. Owen has constructed an animal intermediate between the crocodile and the frog. Pictet (*Traité de paléontologie*, 1853) calls it *mastodonsaurus*, and considers it a saurian from the presence of scutes on the skin and the form of the teeth. The general shape of the head is frog-like, as also are the double occipital condyles, narrow palatal processes of the maxillary, the roof of the mouth, the row of small teeth across the anterior part of the palate and a longitudinal row on the palate concentric with the maxillary teeth, the lower jaw and the vertebrae, and bones of the fore limbs; on the other hand, the facial and nasal parts of the skull are crocodilian, as are the maxillary tusks, the strong transverse processes for ribs, bony dermal plates, &c. In some of the dental characters it resembles fishes. The size of the tracks varies from 4 to 12 inches in length, with 5 toes on each, one turned in like the human thumb; the hind foot was 8 or 4 times as large as the fore foot; there is no positive evidence that the animal had a tail; its progression seems to have been slow and awkward, the legs having been swung outward like the course of a scythe. Near each large step, and 1½ inches before it, is a smaller one of the fore foot, the distance from pair to pair being about 14 inches. The American cheirotherium made a double series of tracks, and evidently belonged to a different genus from that of Europe.

LAC, a resinous exudation from the twigs and branches of various kinds of trees in the East Indies, caused by the punctures of the insect *coccus lacca*, which swarms upon trees yielding a milky juice. The exuding juice forms an incrustation around the twigs, and in this the insects make the cells for containing their eggs. Upon the outside the concrete resinous lumps are marked with numerous pores as if perforated with a needle; within are seen many oblong cells, which often contain dead insects. The substance is of a deep reddish brown color, of shining fracture, and an astringent, bitterish taste. It colors the saliva beautifully red, and produces a dye of this color but little inferior to the real cochineal. Indeed, before the discovery of the latter it was the material of the fine rich crimson dye of the ancients, and of the durable reds of the dyers of Brussels and Holland. The

coloring matter is readily extracted by warm water; the lac itself is for the most part soluble in alcohol; when burned it diffuses a strong agreeable odor. The crude article broken off with the twigs is known as stick lac, and is sold by those who gather it at from 2 to 4 lbs. for a penny. When the stick lac is broken up and its coloring matter is partially removed by water, it is called from its granular appearance seed lac. This is sometimes melted into masses and called lump lac. The more familiar variety known as shell lac is prepared by melting the seed lac and straining it through fine linen bags, upon a flat, smooth surface of wood, to harden. It dries in thin sheets, which break up into small fragments. Their color is from orange to dark reddish brown; they are more or less transparent, hard, and brittle, and of shining lustre. The substance is soluble in alcohol, but not in water, and possesses neither taste nor smell. It softens readily by heat, so that it has run together in masses when stowed in the hold of a ship. It contains, as found by Hatchett, 90.9 per cent. of resin and 0.5 of coloring matter; the remainder is wax, gluten, and foreign matter. Stick lac contains about 10 per cent. of coloring matter and 68 per cent. of resin. The coloring matter is separated by treatment with warm water and evaporation, and, made into square cakes, is known as lac dye, lac lake, or cake lake. When scraped they yield a bright red powder like carmine. A varnish and pigment combined is prepared from stick lac for the process of japanning. The natives of India employ the substance in various ways. They color it with yellow orpiment and make it into bracelets, chains, and other ornaments in imitation of gold. They prepare with it a good varnish, which they color with cinnabar or some other pigment. The wheels of their lapidaries are covered with a preparation of lac, which serves by its adhesive nature to retain the polishing powders. The chief uses of shell lac are for manufacturing sealing wax, and as the basis for spirit varnishes and the French polish. The best red sealing wax contains 48 parts in 100 of it, together with 19 parts of Venice turpentine, 1 of balsam of Peru, and 82 of finely powdered cinnabar. It forms 60 per cent. of the best black sealing wax, the other ingredients being 10 parts of turpentine and 80 of levigated bone black. The coloring matter and some insoluble ingredients, which are never wholly removed from shell lac, injure it for a varnish for light colored works; but recent methods of bleaching, one of which by chlorine was introduced by Dr. Hare, have in a great measure removed this difficulty. (See VARNISH.) The adhesive quality of lac renders it a useful material for cements for broken porcelain, and united with caoutchouc it makes the famous marine glue. A weak solution of it in alcohol is recommended in surgery to be spread on bandages for dressing wounds and ulcers. Formerly it was used in medicine, but it has no specific action.—The best stick lac is brought from Siam,

and next to this ranks that from Assam. In the best articles the sticks are frequently incrustated entirely around with the lac to the thickness of a quarter of an inch; and the substance also forms large oblong bunches of much greater thickness. The Bengal stick lac is commonly in very scanty and irregular incrustations. The capacity of production is said to be many times greater than the demand, though the annual exportations amount to several million lbs. of lac dye and shell lac. The stock on hand in 1854 consisted, according to a paper of Gen. Briggs presented to the English Asiatic society, of 8,800,280 lbs. of lac dye, and 2,858,750 lbs. of shell lac.

LA CAILLE, NICOLAS LOUIS DE, a French astronomer, born at Rumigny, near Rheims, March 15, 1718, died in Paris, March 21, 1762. He was a pupil of Cassini in the observatory of Paris, assisted Maraldi in the survey of the coast between Nantes and Bayonne, and afterward (1739-'40) took part in the measurement of the arc of the meridian, correcting the results of Picard, and proving the flattening of the earth toward the poles. Being now appointed professor of mathematics in the Mazarin college, he published (1741-'50) lectures on mathematics, mechanics, astronomy, and optics, which have passed through many editions. He next devoted himself to astronomical observations, both at his observatory and at the Cape of Good Hope. His catalogue of stars made at the latter station excited especial surprise from the quickness and accuracy of its formation. By simultaneous observations made by himself at the Cape and by Lalande at Berlin, he established the distance of the moon and of the planets Mars and Venus. While there he received orders to survey the islands of Bourbon and Mauritius. On his return he investigated anew the problem of finding the longitude at sea, and proposed the modern plan of a nautical almanac. In 1757 he published his *Astronomie Fundamenta*; the next year, tables of the sun; and soon after, Bouguer's treatise *De la gradation de la lumière*, and a new edition of a treatise on navigation by the same author. After his death his friend Maraldi published his treatise on the "Southern Starry Heavens," and his "Voyage to the Cape."

LAOANDONES, an unsubdued Indian nation, occupying the upper waters of the river Usumasinta, in Central America. Their territory, which embraces a considerable portion of Guatemala, Chiapas, and Tabasco, is a wild, mountainous region, and has never been explored. For two centuries after the conquest, the Lacandones were aggressive and cruel in their habits, and gave great trouble to the adjacent Spanish provinces; but for the last century they seem to have sought seclusion, and carefully avoided contact with the Spaniards as well as with the civilized Indians around them. During the 17th century their numbers were much augmented by the remnants of the Choles, Itzaes, and Manches, driven out of the provinces of Peten

and Vera Paz. In 1887 the Manchos made a treaty with the then existing republic of Central America, which provided that after 7 years they should be under the sovereignty of the republic, and that then there should be no change in their religion, nor interference with their practice of polygamy. Although anciently regarded as the fiercest and most barbarous of all the aboriginal families of Central America, the Lacandones are now described as shy and almost timid. A few occasionally enter the frontier towns of Chiapas, Tabasco, and Guatemala, with a little tobacco or sarsaparilla; but no sooner have they disposed of it than they disappear suddenly by obscure and unknown paths. Their language is a dialect of the Maya of Yucatan, and closely resembles the Quiché and Kachiquil. Waldeck describes their dress as coinciding with the garb represented on the monuments of Palenque. Their actual worship is unknown, although it is well understood that they have their hidden temples where they practise the rites of their ancestors. Their government is equally unknown, but probably is nearly the same as before the conquest. There is however no reason for believing that they have in their fastnesses large cities and towns, with great temples glistening like silver in the sun, such as the cura of Quiché affirmed to Mr. Stephens that he had seen with his own eyes from the tops of the mountains of Quesaltenango.

LACCADIVE ISLES (called by the natives *Lakaradeevh*, *deevh* signifying "island"), a group of small islands in the Indian ocean, consisting of 20 clusters, 100 m. off the Malabar coast, between lat. 10° and 12° 40' N. and long. 73° and 74° E.; pop. about 10,000. They are all of coral formation. The largest is but 7 miles in length, and many of them are barren uninhabited rocks. From the dangerous reefs around them they are seldom visited by navigators. The harbor most frequently called at for supplies is Kan-Rattea, lat. 10° 34' N., long. 73° 56' E. The islands are not fertile, excepting in cocoa palms, the fruit of which forms the principal food of the inhabitants, and its fibre or coir one of the chief articles of commerce. The natives are an inoffensive race, of Arabian origin, who profess a kind of Mohammedanism, and are called Moplays. Their dwellings are of stone and roofed with thatch. The islands are dependencies of British India; the principal are Underoot, Cabarita Akhalu, Kalpeni, Kaltair, Oheltac, Kerdmut, Ameni, Oorrittee, and Mini-ooy. The Laccadives were discovered by Vasco da Gama in 1499. In April, 1847, the sea broke over Kalpeni, Underoot, and other islands, filled the wells with salt water, and uprooted the trees; and 1,800 of the inhabitants perished by drowning or famine.

LACE, a fabric of threads of cotton, linen, silk, gold, or silver, interwoven to form a delicate net-work. It was in use in Venice at an early period, and it is supposed that it was known to the ancient Greeks and Romans. Its

importation into England was prohibited in 1488, in order that the domestic manufacture should be protected; but the lace was probably coarse, as pins, which are essential for the manufacture of the finer qualities, were not made until near the middle of the next century. The trade prospered during the 17th century especially in Buckinghamshire; and in 1880, as appears by a petition presented to Queen Adelaide, there were 120,000 persons dependent upon it in that county and its vicinity. The kind called pillow, thread, or bone lace, which they manufactured by hand, was, however, already in great measure supplanted by the bobbinet machine-made lace. Other parts of Great Britain are famous for the manufacture of other qualities of lace. A recent English writer says: "Honiton lace came into fashion in 1842, and owes its present position to Queen Victoria. Commiserating the miserable condition of the lace-workers of Devon, she determined to assist them by bringing their manufacture into fashion, and in furtherance of this laudable purpose had her wedding dress made of it. Honiton at once became the rage, and has continued popular and expensive ever since, although previously purchasers could hardly be found for it." Its manufacture employed in 1851 from 7,000 to 8,000 persons in a district including Honiton and extending 30 miles along the coast of Devonshire and 12 miles inland. Some of the highly ornamented dress articles of this lace were valued at 200 guineas each. Nottingham at the same time was the seat of the bobbinet manufacture, which employed 138,015 persons, 8,200 machines, and a capital in the various departments of the trade of £2,965,945. The annual business returns amounted to £2,800,000. Limerick lace is made only in Ireland; British point lace chiefly in the vicinity of London; and tambour lace at Islington, Coggleshall in Essex, and Nottingham. Chantilly lace is always black; it is exceedingly fine, and is much used for veils and flounces. The names of many of the varieties point to other countries also as engaged in the manufacture. Thus the famous Brussels, Mechlin, Valenciennes, and Grammont laces are of Belgian production. More and finer laces are imported into Great Britain from Belgium than from all other countries in Europe together. Switzerland also furnishes supplies superior in quality to the French; but they pass in commerce as French. Of the Belgian laces named above, one variety classed with the Brussels, and known as the *point à l'aiguille*, is made entirely with the needle. The Mechlin laces are made at Mechlin, Antwerp, and other places. The mesh in these laces is of hexagonal form, and the pattern is worked in the net. Mechlin was formerly the highest prized among laces; but the *point de Venise antique* now ranks above it in value. "It is a rare old lace, light and open, raised in some parts like embossed work, and has an air of antiquity that is highly prized. The manufacture of it is said to be entirely abandoned,

and it is only found now as heirlooms in families, except when a stray specimen finds its way into market, in which case there is a great competition for its possession. The *point de Venise antique* is seen more frequently in Italy than in any other country, for the high dignitaries of the Catholic church have their official robes trimmed with flounces of this costly material. It finds its way into England chiefly through the medium of travellers, who seize upon every opportunity to obtain these relics of ancient fashion." Valenciennes laces are made in and around Ypres, Menin, Courtrai, Bruges, Ghent, and Alost. It is remarked of these districts, as also of those in France engaged in the manufacture, that each one has its own peculiar style, which serves to identify its production, though no difference may be perceived in the process or materials. In France the manufacture is more extensively carried on than elsewhere; and it is supposed that more than 200,000 females are there employed in making lace by hand. Caen, Bayeux, Chantilly, Lille, Arras, Mirecourt, Puy, Bailleul, and Alençon are all noted for the manufacture. The lace called *point d'Alençon* is the only variety made with pure linen hand-spun thread and worked with a needle; the value of the thread alone is from \$500 to \$600 per lb. The meshes of this lace are alternately square and octagonal. The Alençon or blond lace has a hexagonal mesh. *Point d'Alençon* is prized next to the *point de Venise antique*. It has a dingy appearance, and strikes the unsophisticated with the idea that it needs washing. *Point de gaze* is a variety of lace as fine as a spider's web and as light as thistle down. At Bayeux are made the whitest and cheapest varieties of lace, and together with Caen more piece goods, as shawls, mantles, &c., than are made in any other part of the world; at Mirecourt, Lille, and Arras, the clear foundation and *fonds de champs*, in white thread, and also a lace called *guipure*, resembling the Honiton. Silk blond was first made at Caen, and was so named from its original nankeen color. It is now made of the finest white or black silk.—The intricacies of lace weaving render it hopeless to attempt to convey a clear idea either of the processes, the peculiarities of the different fabrics, or of the machines employed, by any mere description. Dr. Ure remarks: "Bobbinet may be said to surpass every other branch of human industry in the complex ingenuity of its machinery; one of Fisher's spotting frames being as much beyond the most curious chronometer, in multiplicity of mechanical device, as that is beyond a common roasting jack." The oldest kind of lace, such as is seen in the portraits of the time of Charles I., is known as the Brussels point, the net-work of which was made by using bone bobbins (whence its name of bone lace), and the pattern worked with the needle. A hard stuffed pillow or cushion was employed (hence sometimes called pillow lace), covered with parchment, and on this the pattern was drawn.

Pins were stuck into the pillow, according to the pattern, and around these the threads were woven or twisted. By the introduction of a thicker thread, called gimp, the appearance of flowers and ornamental designs was produced. The thread was wound upon bobbins, and each pair of these was attached together on beginning the work, and the thread fastened to one of the pins. The sides of the mesh were formed by twisting 3 times over each other the threads of two pairs of bobbins, one pair being held in each hand. The threads of the adjacent bobbins were next crossed to form the bottom of the mesh; and the work thus went on, each portion of the mesh requiring its own routine of thread crossings, and being secured by pins as soon as completed. From 48 to 60 bobbins are required for every inch of breadth, and only one mesh is made at a time. Since the introduction of machinery for producing the net-work, ornamental patterns made by hand are sewed to it. In this way are produced the most beautiful fabrics of Honiton lace. "Brussels *point appliqué* is formed by sewing sprigs of the real point upon illusion or any other kind of plain lace. It is very much used for flounces, and costs from £6 to £8 per yard, $\frac{1}{4}$ wide. It is very pure in color, which is owing to a white powder with which it is saturated, and which it continues to retain, and obviates the necessity of washing." The first attempts to apply machinery to the work were made in 1768 by a stocking weaver of Nottingham, and his machine, which was called a pin machine, making single press point net in imitation of Brussels ground, is said to be still in use in France for making the variety known as *tulle*. The stocking weavers of Nottingham invented other machines, the first for bobbinet in 1799; and though they were all inferior, they made lace more cheaply than by the old methods, and caused Nottingham to become the centre of the trade. But the first really successful machine for bobbinet (so named from the threads crossing the warp being supplied from bobbins) was that of Heathcoat, invented in 1809, and suggested by the machinery employed in making fishing nets. The principle of the invention was in the use of fixed parallel warp threads, round which the bobbin threads were worked as the weft of the fabric, one set going obliquely across from right to left and the second set obliquely across from left to right. Mr. Heathcoat was compelled by the opposition his machine excited to remove from Nottingham to Devonshire, and it was not until the expiration of his patent in 1828 that the machines were introduced in the former place. In the machine the warp threads, to the number of 700 to 1,200 in a yard of width, are stretched from a roller; which extends the whole length of the thread beam, and the weft threads are wound each upon a bobbin formed of two thin brass disks, riveted together, leaving a narrow space between them for the thread. Each bobbin holds about 100 yards of thread, and there

are as many as 1,900 of them to a machine. The arrangement and movement of these in the machine can be understood only by careful inspection and study of the machine itself. The pieces of bobbinet measure from 20 to 30 yards each; the width is variable. The narrowest strips—even the narrow quillings used for cap borders—are made on the same machine, many breadths together, which are temporarily united by threads that are finally drawn out. There are special machines called warp machines, of great variety, for making the sorts of lace known as warp lace; and there are others called point net for making this quality. A Jacquard apparatus is attached to some of the machines for working in the thick thread of gimp for the ornamental figures. Where the thread passes from one figure to another, it is clipped off by children, who use the scissors for this purpose with great dexterity. The patterns at many of the factories are worked in by hand. The government school of design established at Nottingham has served to educate many skilful designers, who prepare the patterns upon wood or stone as for engraving or printing, those parts intended to leave a mark being in relief. The block, being moistened with some colored pigment, is repeatedly impressed upon the net, until the pattern is transferred to the whole surface designed for it; and the figure is then worked with the needle, the web being extended horizontally in a frame. Before being embroidered the net is carefully examined, and the defective parts are skilfully repaired by a class of workwomen called lace menders. It is also singed by drawing it rapidly over the flame of gas lights. Bleaching and dyeing are final processes, preceding those belonging to calendering. "The labor of washing lace is almost an art; and only the most skilful are engaged in it. After washing, lace is spread out to dry on a cushioned table, and pins of a peculiar sort are run through each hole to prevent it from shrinking. When very fine, or the pattern intricate, an entire day will be spent upon one yard of lace." By means of the application of machinery to lace making, the price of the fabric has been wonderfully reduced; so that, as Dr. Ure states, a rack of lace, equal to 240 meshes in the length, which in the early part of the present century cost to manufacture 3s. 6d., now costs not more than one penny; and a 24 rack piece, 5 quarters broad, formerly worth £17, is now sold for 7s.—The imports of lace into the United States in the year ending June 30, 1859, amounted to nearly \$4,200,000, about \$500,000 more than in the preceding year.

LACEDÆMON. See SPAETA.

LACÉPÈDE, BERNARD GERMAIN ÉTIENNE DE LA VILLE, comte de, a French naturalist, born in Agen, Dec. 26, 1756, died at his country seat near St. Denis, Oct. 6, 1825. He early evinced a taste for natural philosophy and musical composition, and was encouraged by Buffon, to whom he had submitted some papers on cer-

tain new philosophical experiments. Repairing to Paris when 20 years old, he was welcomed by Buffon and by the composer Gluck. He followed his twofold vocation, giving to music the time which was not devoted to natural philosophy; he composed several operas, one of which was on the eve of being performed when the rehearsals were interrupted by a whim of a popular actress. He bore this disappointment patiently, and contented himself with publishing his *Poétique de la musique* (2 vols. 8vo., Paris, 1785), in which Gluck's principles are expounded. He had previously written an *Essai sur l'électricité naturelle et artificielle* (2 vols. 8vo., 1781), and *Physique générale et particulière* (2 vols. 12mo., 1782-'4), which were not well received by men of science, and which he himself afterward tried to suppress; but they had such merits of style that Buffon engaged him as an assistant in continuing his "Natural History," and appointed him keeper and assistant demonstrator at the museum. He vindicated his claims to such distinction by presenting to the scientific world his *Histoire des quadrupèdes ovipares et des serpents* (2 vols. 4to., 1788-'9), and his *Histoire naturelle des reptiles* (4to., 1789), which have been frequently reprinted as sequels to Buffon's work. He favored the revolution, was invested with several offices of trust, and elected in 1791 to the legislative assembly, over which he presided toward the end of the same year. He was offered the post of governor to the dauphin, but refused it. On the massacres of September, he so energetically expostulated with Danton, that his friends, anxious for his safety, removed him from Paris, and persuaded him to resign his office at the museum. He did not return to the capital until after the 9th Thermidor. Being regarded as the legitimate heir of Buffon, he took his seat among the original members of the institute on its foundation, and was about the same time appointed to the newly created professorship of herpetology in the *jardin des plantes*. In 1798-1808 he published his *Histoire naturelle des poissons* in 6 vols. 4to. and in 11 vols. 12mo., and in 1804 his *Histoire des cétacés* in 4to. and in 2 vols. 12mo., which display great descriptive talents. On the organization of the consular government, he had been made a member of the senate, in 1801 president of that body, in 1808 grand chancellor of the legion of honor, and soon afterward he became minister of state. His frequent official addresses to the emperor were too often spoiled by adulation. In his capacity of president of the senate he presented in 1809 the report upon the divorce of Napoleon and Josephine. A wise, but not an influential adviser, he could do nothing to prevent the fall of the empire, to which he had become sincerely attached; he submitted to the Bourbons on their first return, joined Napoleon during the Hundred Days, and, though coldly treated on the second restoration, reentered the chamber of peers in 1819. He died of the small pox. Beside the works mentioned above, he is the au-

thor of several papers printed in the *Mémoires* of the institute, and, jointly with George Olivier and Geoffroy St. Hilaire, of *La ménagerie du muséum national d'histoire naturelle* (1801), a descriptive history of the animals in the *jardin des plantes*. He devoted the last months of his life to correcting the notes of the *Histoire générale, physique et civile de l'Europe, depuis les dernières années du 5^e siècle jusque vers le milieu du 18^e*, which appeared after his death (18 vols. 8vo., 1826), and attracted very little if any attention. To this must be added two other posthumous works: *Histoire naturelle de l'homme* (8vo., 1827), and *Les âges de la nature et l'histoire de l'espèce humaine* (3 vols. 8vo., 1830). Under the title of *Œuvres de M. le comte de Lacépède*, his principal productions, viz., his discourses and natural histories of cetaceous and oviparous animals, snakes, and fishes, were collected in 11 vols. 8vo., 1826, and reprinted in 1831-3, 1836, and 1840.

LA CERDA, the name of an ancient Spanish family, which traced its origin to Ferdinand the eldest son of Alfonso X. of Castile, called La Cerdá, or the horse's mane, by reason of a large tuft of hair which grew upon his shoulders. In 1269, at the age of 15 years, this prince was married to Blanche, daughter of St. Louis of France. Philip the Bold, brother of Blanche, Edward, heir to the throne of England, and the king of Granada, were present at this marriage. Ferdinand died in 1275, leaving 2 sons, Alfonso and Ferdinand, heirs to the crown. Sancho, 2d son of Alfonso X., however, claimed the succession, and caused himself to be proclaimed in his father's lifetime. Yolande, the wife of Alfonso, fled from Castile with her grandchildren, to find a protector for them in her brother Don Pedro, king of Aragon, or in their uncle Philip the Bold of France. After some hesitation these kings resolved that the young princes should remain prisoners in Aragon, and Yolande, after fruitless efforts to change their purpose, was obliged to return to Castile alone. Blanche, the mother of the princes, wandered through France and Aragon, vainly exclaiming against the injustice of this decision. Alfonso X. died in 1284, and in his will made Alfonso and Ferdinand de la Cerdá his heirs, and even in their default excluded from the throne that son by whom the latter years of his life had been embittered. So sweeping a disinheritation was however regarded as of little force, and caused slight hesitation between the unfortunate children, who for many long years had languished in a fortress of Aragon, and Sancho, already in possession of the throne, and whose victories over the Moors had just given him the surnames of the Strong and the Valiant. At length, when it became the interest of the king of Aragon to embarrass the king of Castile, he set the princes of La Cerdá at liberty. They were proclaimed at Badajoz and Talavera; but being unable to maintain themselves in Castile, they passed into France in the reign of Philip the Fair. They received from him but slight assistance, and their

military operations on the frontiers of Castile were unfortunate. Sancho had died and had been succeeded by his own son. The kings of Portugal and Aragon, being now invited to act as mediators between the ruling and the proscribed branches of the family, gave a decisive sentence in favor of the former, stipulating only that three cities should be ceded to Alfonso to aid him in maintaining the dignity of his birth. Alfonso at first refused, but afterward, deserted by all his defenders, he accepted the terms, and from this time received the surname of the Disinherited. He died in 1325, leaving two sons. One of these, Charles de la Cerdá, called also Charles of Spain, was appointed by King John in 1350 constable of France. But the French court was soon disturbed by a rivalry between Charles of Spain and Charles the Bad, king of Navarre; and in 1354, while on a visit to his young wife in the castle of L'Aigle in Normandy, the former was poniarded by assassins in the interest and under the eye of the king of Navarre. In 1425 the house of La Cerdá became extinct.

LACERDA, FRANCISCO JOZÉ DE, a Portuguese traveller, born in the early part of the 18th century, died in Africa about the beginning of the 19th. A military man by profession, and an excellent engineer, he was employed by his government in marking the boundary line between the Portuguese and Spanish possessions in Brazil. His travels in that country were published in 1842 in the journal of the Rio de Janeiro historical society. In 1797 he was placed at the head of a government expedition from Tete, capital of a government of the Portuguese territory in E. Africa, whence he set out for Oazembe. He reached Lunda, the capital, at the end of 1798, and was well received by Laqueza, the king, but died not long after his departure from that city. His body was about to be removed to Tete by order of the king, when those charged with its transmission were attacked by highwaymen and compelled to leave it unburied in the desert. The scientific remains of the expedition, however, were saved by Lacerda's nephew, who had formed part of it. Monteiro and Gamitto, who in 1831 set out on a new expedition, frequently refer to Lacerda's labors. His MSS., however, are still unpublished in the Lisbon academy of sciences, while Gamitto's narrative of his explorations was published in Lisbon in 1854 (*O Muata Cazembe, &c.*).

LA CHAISE D'AIX, FRANÇOIS DE, a French Jesuit, for 34 years confessor of Louis XIV., born at the chateau of Aix, Forez, Aug. 25, 1624, died Jan. 20, 1709. He taught philosophy and theology with brilliant success at Lyons, was afterward rector at Grenoble and provincial of his order at Lyons, and in 1675 succeeded Ferrier as confessor of the king. He maintained his position amid the difficulties between Mme. de Montespan and the queen, Mme. de Montespan and Mme. de Maintenon, the Jesuits and the Jansenists, Bossuet and Fénelon, and the courts of Rome and of France. He promoted the revocation of the edict of Nantes

(1685), but exerted a conciliatory influence with respect to Fénelon, Quesnel, and the Jansenists. Louis XIV. built for him a country seat called Mont Louis, the gardens of which are now transformed into the cemetery named Père la Chaise.

LACHES (law Fr. *lachesse*, idleness). The law shows no favor to either tardy or negligent suitors. *Vigilantibus non dormientibus jura subveniunt*, the laws assist those who are vigilant, not those who sleep upon their rights. In this spirit are framed statutes of limitation. (See **LIMITATION**.) So, too, in respect to the production of evidence: testimony discovered after a trial may be heard by the court, if it be material to the case adjudged; but if, by the exercise of a proper diligence, the evidence might have been offered at the trial, its non-production is attributed to the party's neglect or laches, and from the consequences of that the court will not willingly relieve him. The word laches remains a familiar one in the law of negotiable paper (which see). The same principles of diligence and laches are found in equity practice. The negligence of a party in bringing suit or doing some other act required of him in order to become entitled to redress is laches, which the court of equity will discountenance. In the language of Baron Alderson: "Nothing will call the court's jurisdiction into exercise but conscience, good faith, and reasonable diligence. When these fail, the court will remain passive." For example, one who claims specific performance of an agreement must show that he has been in no default in the premises, but that he has taken all proper measures to secure performance; for if he has been guilty of laches his bill for relief will be dismissed. Yet his negligence must clearly appear; thus, that a party has rested upon an equitable title will not be imputed to him as laches, when he seeks performance of an agreement to convey the legal title. But, *nullum tempus occurrit regi*, lapse of time does not bar the rights of the crown; in other words, no laches can be imputed to the sovereign, whether crown or state. It was upon this principle that formerly in England the civil claims of the crown were not prejudiced by lapse of time; and criminal prosecutions, which are always brought in the sovereign's name, might be commenced at any distance of time after the commission of the offence. These rules have been indeed somewhat modified by statutes, but the principle still remains, as well in the United States as in England.

LAOHMANN, KARL, a German philologist, born in Brunswick, March 4, 1793, died in Berlin, March 18, 1851. He was educated at the universities of Leipsic and Göttingen, and in 1811 founded in the latter city, in conjunction with Dissen, Schulze, and Bunsen, a critical and philological society. During the war after Napoleon's return from Elba, he served as a volunteer in the Prussian army. In 1816 he was successively appointed preceptor at the gymnasium and professor at the university of Königsberg, and in 1827 became a professor in

that of Berlin. This office he retained till his death. His essays on the *Nibelungenlied* and on Homer are the best known of his productions.

LACHRYMÆ CHRISTI, a celebrated wine of Naples, made in small quantity, and mostly reserved for the royal cellars. This wine, when pure and new, contains 19.7 per cent. of alcohol, of the specific gravity of .825 at 60° by measure; pure Château Margaux having 8.9, and brandy 58.89.

LACHRYMATORIES, small vials found in the sepulchres of the Greeks and Romans, and so denominated because they were supposed to contain the tears of the friends of the departed. These vials were made of glass or earthenware, with a long neck, and mouth shaped to receive the eye-ball. Notwithstanding the popular opinion with regard to their use, the probability is that they held certain aromatic substances.

LACKAWANNA, the name of a river and coal basin in Luzerne co., Penn. The stream rises in several small branches in the N. E. corner of the state, and flowing S. enters the N. E. extremity of the northern anthracite coal field, along which it continues past Carbondale, Jessup, and Scranton, nearly 80 m., to the N. branch of the Susquehanna, which it enters at Pittston. The course of the N. branch thence continues in the same coal field past Wyoming and Wilkesbarre to its S. W. extremity, about 20 m. further. This coal field is of narrow ellipsoidal form, slightly crescent-shaped, stretching in a N. E. and S. W. direction, and not attaining in its widest central portion a greater breadth than 5 m. (See map in article **ANTHRACITE**.) On each side the valley is shut in by mountain belts of the devonian strata, from the summits of which fine views are afforded of the fertile valley, its thriving towns and industrial operations. The western or Wyoming portion of the basin is traversed by the N. branch canal, and also by the Lackawanna and Bloomsburg railroad, which is extended further up the basin, connecting at Scranton with the Delaware, Lackawanna, and western railroad, which here traverses the coal field, and affords to its products an outlet southward through New Jersey to New York city, and northward to the Erie railroad. Other railroads also are in operation and laid out through the valley; and from its northern portion at Archbald the Delaware and Hudson canal company have two roads connecting with the canal at Honesdale, whence enormous supplies of anthracite have been for many years transported down the valley of Lackawanna creek to the Delaware river, and thence to the outlet of the canal at Rondout on the Hudson. This coal field, being the nearest to New York, supplies a large portion of the anthracite consumed in that state and further east; and its importance compared with the other anthracite coal fields may be seen by reference to the article **ANTHRACITE**. The greatest thickness of strata belonging to the coal measures amounts in the central portion of the basin to nearly 1,800 feet. On each side they dip toward the central axis at angles sometimes

exceeding 30°, gradually lessening till they are found in horizontal and undulating positions near the centre. Toward each extremity of the basin they gradually shelve upward till replaced by the outcrop of the older rocks. The basin is remarkable for the large number of beds concentrated in a moderate thickness of coal measures. Thus at Solomon's Gap as many as 18 beds, varying from 1 foot to 19 feet in thickness, are found in 900 or 1,000 feet of strata, making a total thickness of coal of about 84 feet, or of workable beds 45 or 50 feet. The coal beds vary greatly in thickness as traced a few miles E. or W., some running together and producing immense bodies of coal, and again splitting into new beds of diminished thickness. This causes great uncertainty in tracing and identifying the several beds, and in estimating the value of any portions of the basin not explored by mining shafts. The lower coal measures produce some iron ores, which, together with ores obtained from the red shale formation, are employed by blast furnaces in the valley, the most important of which are at Scranton.

LA CLEDE (formerly Kinderhook), a S. co. of Mo., drained by Gasconade river; area, 710 sq. m.; pop. in 1856, 4,559, of whom 228 were slaves. It has a rolling surface, in some places well timbered, in others occupied by prairies. The soil is fertile, and the productions in 1850 were 136,829 bushels of Indian corn, 9,601 of wheat, 18,672 of oats, 6,420 lbs. of wool, and 30,975 of butter. Capital, Lebanon.

LAOLOS, PIERRE AMBROISE FRANÇOIS CHODERLOS DE, a French writer and soldier, born in Amiens in 1741, died in Taranto, Nov. 5, 1803. He entered the army at the age of 18, and reached the rank of captain in the corps of engineers in 1778. In 1782 he published a licentious novel, *Les liaisons dangereuses*, which nearly vied in point of popularity with Louvet's celebrated *Faublas*. A few years later he became secretary to the duke of Orleans, and thenceforth mingled with extraordinary activity in all the intrigues which aimed at the overthrow of Louis XVI. with the view of placing his own master on the throne. He figured among the most ardent revolutionists, became a prominent member of the *société des amis de la constitution*, afterward the "Jacobins," conducted their journal, and was the first to call for the deposition of the king after his flight to the frontier. In concert with Brissot, he wrote the petition for the same object which was to be signed at the Champ de Mars, July 14, 1791, and brought about the massacre with which Lafayette and Bailly were so bitterly reproached. For a time he served in Marshal Luckner's army in the north, and was promoted to the rank of brigadier-general, Sept. 22, 1792. The next year, sharing the fate of the duke of Orleans, he was incarcerated, but was liberated on the 8th Thermidor. After commanding the artillery in the army of the Rhine, he was sent in the capacity of inspector-general to the army in southern Italy, where he died.

LA CONDAMINE, CHARLES MARIE DE, a French mathematician and geographer, born in Paris, Jan. 28, 1701, died there, Feb. 4, 1774. He was educated at the university of his native city, and entering the army, served with distinction at the siege of Rosas. He soon, however, abandoned the military profession, and joined an expedition which was proceeding to the Mediterranean to explore the coasts of Asia and Africa. During his absence he visited Troas, Cyprus, Jerusalem, and Constantinople. In 1735 the academy of sciences sent him with Bouguer and others to Peru, to measure an arc of the meridian, for the purpose of more accurately determining the dimensions and figure of the earth. He returned to France in 1743, and prepared accounts of the voyage, travels, and labors of the commission. His "Voyage up the Amazon," and "Travels in South America," appeared in 1745, and "The Figure of the Earth as determined by the Observations of MM. de la Condamine and Bouguer" in 1749. In 1748 he was made a fellow of the royal society of London, and in 1760 a member of the academy of sciences in Paris. He labored to promote in France the practice of inoculation for small pox which was then followed in England. He left a number of treatises on geography, natural history, and physics, and in his day had some reputation as a writer of verses. The discovery by which he is best known is that the deflection of a plumb line by a mountain is large enough to be measured.

LACONIA, or LACONICA, in ancient geography, the southernmost division of Peloponnesus, bounded N. by Arcadia and Argolis, E. by the Argolian gulf and the Myrtoan sea, S. by the Laconian gulf, S. W. by the Messenian gulf, and W. by Messenia. Its principal mountain ranges were the Taygetus and the Parnok, the former spreading from the confines of Arcadia to the promontory of Tanarus, now Cape Matapan. Another principal promontory was Malea, now Cape Malio. The principal river was the Eurotas, on the banks of which stood the capital, Sparta or Lacedæmon; it emptied into the Laconian gulf. The coast had a considerable number of seaports and good harbors, among others the port of Epidaurus. Other renowned towns were Amyclæ, in a fertile region S. of Sparta, and Helos, on the Laconian gulf, which is supposed to have given the name to the slave population of the country. The coasts yielded a shell fish used for purple dye. The soil in general was fertile, well watered, and especially good for pasture, but, on account of the numerous mountains and hills, not well adapted for agriculture. The country was rich in game. The history of Laconia concentrates in that of its capital, Sparta.

LACORDAIRE, JEAN BAPTISTE HENRI, a French Catholic divine, born in Recey-sur-Ource, Côte d'Or, March 12, 1802. He was educated at Dijon, followed the prevailing reactionary impulse that was animating young men against the tendencies of the restoration, distin-

guided himself alike by the earnestness of his liberal opinions and by a peculiar obstinacy of character, and was graduated in 1819 with the highest university honors. He completed the legal course at Dijon, and continued to attract notice by his intellectual power and anti-Catholic enthusiasm, especially as an orator in the literary societies. In 1821 he went to Paris, and for 18 months was employed with an advocate at the court of cassation. Suddenly he abandoned the bar to enter the seminary of Saint Sulpice as a student of theology. He explains this change by saying that the soul of a young man "demands only a great cause to serve with great devotion." His social theories, doubtless, prepared his return to the Catholic faith, his aim being to revive society by the instrumentality of religion and the church. While in the seminary his ardent piety was alike dissatisfied with the Cartesian philosophy and the Gallican liberties, the former granting too much to human reason, the latter verging to schism, neither being absolute enough. Yet he preserved in his new calling all the love of liberty which had animated his youth, linking it with the vital idea of Christianity, and his peculiar tendencies gave rise to some eccentricities that attracted the notice of his superiors both before and soon after he was ordained to the priesthood in 1827. Appointed almoner in the college of Henry IV., he there became acquainted with the abbé de Lamennais, the prophet at once of ultramontaniam in religion and radicalism in politics; and though Lacordaire had previously manifested similar ideas, he has sometimes been called one of Lamennais' best works. In 1830 Lacordaire and Montalembert associated themselves with Lamennais in founding *L'avenir*, a journal whose motto was *Dieu et la liberté*, and which was devoted to the maintenance of the absolute authority both of the pope and the people. The audacity of its theories and the vehemence of its language caused the editors to be quickly arraigned before the civil tribunal, where Lacordaire pleaded their cause himself and gained an acquittal. He had previously sought in vain to be enrolled as an advocate, notwithstanding his priestly dignity. He united himself with Montalembert and De Coux in opening without regard to legal regulations a free school, which they refused to close at the summons of the authorities, and which was finally suppressed by the police. Lacordaire was again their advocate, and, after boldly demanding the punishment of the ministry for a violation of the charter, was condemned to the smallest penalty allowed by the law. While the clergy of France and Europe were hesitating concerning the novel doctrines advanced with so much zeal and ability, there appeared from Gregory XVI. an encyclical letter (Sept. 18, 1832), severely condemning them. Rejecting all their dogmas, it declared "the whole idea of the regeneration of the church absurd, liberty of conscience a delirium, freedom of the press fatal, and inviolable submission to the prince a maxim of faith."

The three chiefs of *L'avenir* had gone to Rome with the hope of preventing this decision; and while Lamennais prepared to rebel, Lacordaire resigned himself simply and sincerely to obedience. He announced in a pamphlet that for the future he knew no other guide than the church, no other need than union, no other ambition than to rally around the holy see and the bishops of France, and that till his last sigh he should give his testimony for God, for his church, and for the Roman church in particular. On his return to Paris he began to preach in the college of Stanislas, and in the following year in Notre Dame, where his sermons were admired not less for their literary excellence and a sort of romantic tone than for their religious fervor. "He knows more of literature," said a severe critic, "than of history, more of history than of philosophy, and more of philosophy or even politics than of religion;" and in his conferences all the social questions which had recently agitated France were discussed with an ability and splendor of style that attracted the most eminent men of letters. After two years of success, he again went to Rome in 1836, for the purpose, as was said, of studying theology, and there wrote his *Lettre sur le saint siège*, a solemn argument and protest against the doctrines of *L'avenir*. He had already conceived the plan of reviving or founding a religious order in France, and after preaching in 1838 in Notre Dame he returned again to Rome, entered the order of the Dominicans and the convent of the Minerva, passed his novitiate in the convent of Quercia, wrote his *Vie de Saint Dominique* (Paris, 1840; new ed. 1858; translated into Spanish, Polish, and German), and in 1841 resumed his chair at Notre Dame, a friar preacher with shaved head and white robe. He preached afterward in the principal cities of France, re-establishing the order of Dominicans, and displaying a new style of eloquence, which excited at once surprise and enthusiasm. On the outbreak of the revolution of 1848, being elected to the constituent assembly, he appeared there in his Dominican habit, and took his place on "the mountain," two benches from Lamennais, but soon gave in his resignation when he found that his reconstructive theories would have little chance in the conflicts of partisan politics. In 1853 he preached a sermon at St. Roch, containing political allusions which caused his temporary removal from his office at Notre Dame. "The abbé Lacordaire," it was said, "loves to walk on the edge of the precipice from which he once narrowly escaped." He retired in the following year, and assumed the direction of the college of Sorèze. On Feb. 2, 1860, he was elected to the French academy to fill the vacancy caused by the death of De Tocqueville. Among his writings, beside several volumes of *Conférences*, are *Considérations philosophiques sur le système de M. de Lamennais* (1834), and a *Mémoire pour le rétablissement en France de l'ordre des frères prêcheurs* (1840). An edition of his complete works was published in 1858.

LACQUER, a transparent or colored varnish for covering articles of brass or wood, either for ornament or to preserve them from becoming tarnished. Shell lac is the basis of the varnish commonly employed, whence the coating is termed lacquer, and the process lacquering. Holtzapffel gives the following receipts for "hard wood lacquer": 2 lbs. of shell lac to 1 gallon of alcohol, but without turpentine; or 1 lb. of seed lac and 1 lb. of white rosin, dissolved in 1 gallon of alcohol. The preparation is similar to that already described under the title FRENCH POLISH, and the manner of applying it is also similar to the process there given. Various receipts are given for the lacquer for brass; the simplest and best pale lacquer is made by dissolving, without the application of heat and by agitating together for 5 or 6 hours, $\frac{1}{4}$ lb. of best pale shell lac and one gallon of alcohol. After standing for some time the clearer portion may be decanted, or the whole filtered through paper, and afterward kept in a close bottle excluded from the light. To give a yellow tint, gamboge, turmeric, Cape aloes, &c., may be added to the shell lac; and for a red, dragons' blood and annatto. The most convenient method of employing the colors is to make saturated solutions of them in alcohol, and to add suitable quantities of these to the pale lacquer. Solutions of turmeric, gamboge, and dragons' blood will be the most useful. The turmeric gives a greenish yellow tint, and with the addition of a little gamboge gives the green color to the lacquer used for bronzed works. Brass work should be lacquered as soon as possible after polishing; and if there must be a delay of several hours, it is advisable to cover the polished surface either with a coating of clean oil or with clean cloths; or the articles may be kept bright a few hours by immersing them in pure water. Before applying the lacquer all trace of grease or oil must be removed, by wiping with a rag and rubbing with whitening. It is well to heat the metal nearly to the temperature of boiling water; this prevents the lacquer from being chilled by atmospheric moisture condensed on the metal, and causes the alcohol to evaporate quickly; the lacquer moreover flows more readily, and attaches itself more firmly to the metal. Great care should be taken to guard against excess of heat, which by inducing oxidation would involve repolishing. The access of dust is also to be carefully avoided. Different methods of heating are in use. Manufacturers are provided with a stove specially contrived for the purpose. Gas jets are also arranged to heat a plate upon which the articles are placed, and tubes and other hollow articles are heated by filling them with hot water, and sometimes small pieces are dipped into boiling water. The friction of polishing imparts to some works the required heat. The lacquer is applied with a camels' hair brush rapidly and uniformly, a second coating following the first immediately; in large pieces the two are carried along simultaneously, the

one a little in advance of the other. The metal may if necessary be reheated for the second application. Circular works are generally lacquered in the lathe. In case of imperfections in the operation requiring the removal of the lacquer, it may be taken off while warm by a rag moistened with alcohol; but if it has become hard, it will be necessary to make use of emery paper, or to boil the work in potash lye.

LAORETELLE, PIERRE LOUIS, a French jurist and author, born in Metz in 1751, died in Paris, Sept. 5, 1824. He had gained distinction both as an advocate and *littérateur*, when in 1778 he went to Paris, and was chiefly occupied for several years in drawing up the memoirs printed in the *Grand répertoire de jurisprudence*. His *Discours sur le préjugé des peines infamantes* was crowned by the French academy in 1786, and other writings on the philosophy of legislation gained him admission into the circle of the encyclopædists. A promoter of the revolution, he voted in the legislative assembly with the minority which defended the constitution of 1791, supported the constitution in the club of the Feuillants, opposed the accusation of Lafayette in 1792, and afterward retired from Paris till the 9th Thermidor. He was a member of the legislative body in 1801, and succeeded La Harpe in the French academy in 1808. He accepted no office under the empire or the restoration, and wrote against the latter in the *Minerve Française*, founded in 1817 by Benjamin Constant, Étienne, Jouy, and others, of which he was one of the editors. His complete works, which treat various questions in philosophy, literature, and politics, were published in 1824 in 6 vols.—JEAN CHARLES DOMINIQUE DE, brother of the preceding, a French historian, born in Metz, Sept. 3, 1766, died in Bel-Air, near Mâcon, March 26, 1856. He went to Paris in 1787, and was engaged to analyze and reproduce for the *Journal des débats* the speeches made in the constituent assembly, furnishing at the same time many articles to the journals. He soon took rank in the moderate party both as a writer and as an orator in the club of the Feuillants. After the execution of Louis XVI., of which he composed the narrative that was generally copied and translated, he occupied himself in lecturing on history and in writing for the *Journal de Paris* and the *Républicain Français* against the Jacobin party. On the 18th Vendémiaire (year IV.) he was proscribed as one of the leaders of the royalist movement against the convention. He returned to Paris only to be arrested on the 18th Fructidor, and imprisoned for 23 months (1797-'9). Under the empire he was a member of the bureau of the press, editing at the same time *Le publiciste*, became dramatic censor in 1810, successor of Esménard in the academy in 1811, and professor of history in the faculty of letters in 1812, where for 39 years his course was one of the most numerously attended. He was among the first to rally around the Bourbons in 1814, and in the *Journal des débats* pronounced their re-

turn the triumph of constitutional government over imperial absolutism. When in 1827 Peyronnet proposed a law restricting the press, Lacretelle delivered before the academy an eloquent harangue against it, which led that body to address the king in opposition to it. For this speech he lost his office of censor. He was made commander of the legion of honor in 1845, and retired to Mâcon in 1848, where during the remainder of his life he was frequently visited by men of letters. His historical works, 9 in number and forming 29 volumes, comprise the whole period from the commencement of the religious wars in France to the accession of Louis Philippe, but most fully that of the first revolution. Most of them have the merit of being the first that were written on the period of which they treat, and the judgments are often those of a contemporary partisan.

LACROIX, PAUL, a French novelist and historical and philological writer, born in Paris, Feb. 27, 1807. Under the pseudonyme of *Le bibliophile Jacob*, he wrote a number of historical tales and novels, in which he made use of the old French language. In 1834-'5 he published his *Histoire du 16^e siècle en France, d'après les originaux manuscrits et imprimés* (4 vols. 8vo.). Encouraged by success, he produced in rapid succession an extraordinary number of novels, translations, and historical, philological, bibliographical, and even polemical works. He has also been the editor of, or a contributor to, many periodicals, keepsakes, and illustrated publications. Since 1854 he has edited the *Revue universelle des arts*, published simultaneously at Paris and at Brussels. He was appointed in 1855 keeper of the arsenal library, and is a member of historical committees connected with the ministry of public instruction.—His wife, Apolline Biffa, who was once an actress under the name of Pauline Derfeuille, has lately gained some reputation as a novelist.—JULES, a French poet and novelist, brother of the preceding, born in Paris, May 7, 1809. In 1830 he published a translation of Shakespeare's "Macbeth," which was highly praised by literary critics. He subsequently applied himself to novel writing, in which line of composition he is more remarkable for bitterness of sentiment, satirical power, and intricacy of plot, than morality and chasteness of style. His 5 act tragedy, *Le testament de César*, was performed with success on Nov. 10, 1849, at the *théâtre Français*. In his *Valéria*, another play of the same dimensions, written in conjunction with Auguste Maquet, Rachel filled two different parts. His literal version of Sophocles's *Edipus Rex* was performed with marked success, Sept. 18, 1858.

LACROIX, SILVESTRE FRANÇOIS, a French mathematician, born in Paris in 1765, died there, May 25, 1843. He belonged to a poor family, but by his own exertions acquired an education, and became such a proficient in mathematics, that when scarcely 17 he was appointed professor in the marine school at Rochefort. His treatise upon maritime insurance was

rewarded in 1787 with a prize by the academy of sciences. He was among the original members of the institute, and undertook in 1796 the publication of his elementary *Cours de mathématiques*, comprising arithmetic, algebra, geometry, and trigonometry, which was for years the best text book of its kind. Meanwhile his *Traité du calcul différentiel et intégral* (2 vols. 4to., Paris, 1797) elicited unqualified praise from Laplace. Among his other works are an *Introduction à la géographie mathématique et à la géographie physique* (1801); *Essai sur l'enseignement des mathématiques* (1805); *Traité élémentaire du calcul des probabilités* (1816); *Manuel d'arpentage* (1825); and *Introduction à la connaissance de la sphère* (1828). His publications did not interfere with his duties as a professor, which he performed for about 60 years with scarcely an interruption.

LA CROSSE, a W. co. of Wis., separated from Minn. by the Mississippi river, bounded N. W. by Black river, and drained by the La Crosse; area, 540 sq. m.; pop. in 1855, 8,904. It has an undulating surface and is well timbered. The soil consists of a rich sandy loam. Organized in 1851. Capital, La Crosse, the W. terminus of the La Crosse and Milwaukee railroad.

LACTANTIUS, LUCIUS CELIUS FIRMIANUS, one of the fathers of the Latin church, supposed to have been born in Firmium, Italy, about the middle of the 3d century, died in Treves, Germany, about A. D. 325. The details of his life, and even his exact name, are involved in some uncertainty. In his youth he removed to Africa, and studied rhetoric at Sicca under Arnobius. He was invited by Diocletian to settle at Nicomedia in Bithynia, whither he proceeded about 301. Here he opened a school, but the Nicomedians had so little taste for the study of Latin eloquence that Lactantius was speedily reduced to poverty and constrained to abandon his profession. He now applied himself to literary composition, and probably about this period embraced Christianity. About 312 he was summoned to Gaul to superintend the education of Crispus, the son of Constantine the Great. Before his conversion to Christianity, Lactantius had been a diligent student of the great Roman orator, whose harmonious and eloquent style he had labored so successfully to imitate that he acquired from posterity the appellation of the "Christian Cicero." The editions of his works are very numerous; the most complete and best executed is that of Père Édouard de St. François Xavier (14 vols. 8vo., Rome, 1754-'9).

LACTIC ACID, a product of the decomposition of any kind of sugar in solution, induced by the presence of certain albuminous ferments, as diastase exposed for some time in solution to the air. Milk contains both the elements for the production of this acid, one the sugar of milk, and the other the albuminous caseine. Its change to sour milk is called the lactic fermentation, and lactic acid is a product of this change. It was in sour milk that the acid was originally discovered by Scheele, whence he

named it lactic; but it has since been obtained from the juices of many vegetables, and from the fluids of the stomach and flesh of animals. It is generally admitted to be the cause of the acidity of the gastric juice. As milk turns, the coagulum which is formed is a combination of lactic acid and caseine. If the lactic acid be taken up by bicarbonate of soda, the caseine set free induces further fermentation, and more lactic acid is formed from the sugar of milk; and so by adding more soda the process may be kept up until all the sugar of milk is converted into lactic acid. If a succeeding fermentation be allowed to take place, butyric acid is produced. The composition of lactic acid is expressed by the formula, $C_3H_5O_3 + HO$; and as that of fruit sugar is $C_{12}H_{22}O_{11}$, it is probable that the elements of one equivalent of the latter merely change their grouping to form 2 equivalents of the former. When concentrated *in vacuo* over sulphuric acid, lactic acid is obtained in the form of a sirupy colorless fluid, of specific gravity 1.22, and of very sour taste. At a temperature of $266^\circ F$. it loses its equivalent of water and becomes an anhydrous solid, which dissolves sparingly in water, but readily in alcohol and ether. Lactide is a crystalline substance, of composition $C_6H_8O_4$, produced by subjecting the acid to a temperature of 482° .—In the animal economy lactic acid is thought to play an important part from its property of dissolving large quantities of freshly precipitated phosphate of lime; and this has led to its prescription in medicine with the view of its removing phosphatic deposits in the urine. It has also been recommended in certain forms of dyspepsia. The acid may be conveniently prepared by evaporating sour milk to $\frac{1}{2}$ its bulk, filtering, adding lime, again filtering, separating the crystals of lactate of lime which form, purifying these by redissolving and recrystallizing, and finally decomposing the salt by means of oxalic acid and recovering the lactic acid by filtering. The salts formed by this acid with bases are called lactates. The only one of importance is the lactate of iron, which is much employed in medicine as a stimulant and tonic. It is prepared by digesting lactic acid and iron filings at a gentle heat on a sand bath for 5 or 6 hours, and then allowing the liquor to boil. It is then filtered, concentrated, and allowed to cool and crystallize. The crystals are then drained in a funnel, washed with alcohol, dried rapidly, and transferred to a bottle, which must be well stopped. Particular directions for the preparation of the salt are given in the "American Journal of Pharmacy," Nov. 1853. Lactate of iron when pure is in white crystalline plates. It has an acid reaction, is soluble in 40 parts of boiling water, and the solution soon becomes yellow from the iron passing to a higher degree of oxidation. When sold in a powdered state, it is apt to be adulterated; for this reason it should be purchased in the crystals. The medicinal applications may be in the form of lozenges or sirup. In one of

the Paris hospitals it has been introduced into bread, hence known as chalybeate bread, a grain of lactate of iron in each ounce, which does not injuriously affect the taste or quality of the bread. This is given to patients suffering from chlorosis, and in other forms the medicine has proved beneficial in this disease. It is observed that it acts decidedly to increase the appetite.

LACTOMETER. See GALACTOMETER.

LADAKH, or MIDDLE THIBET, a country on the N. W. frontier of Hindostan, forming part of the kingdom of Cashmere, bounded N. by Khoten and the unexplored region S. of Chinese Tartary, E. by Great Thibet, S. and S. W. by Cashmere proper, and W. by Cashmere and Bultistan, lying between lat. $32^\circ 20'$ and $35^\circ N.$, and long. $75^\circ 30'$ and $79^\circ 30' E.$; area, 26,036 sq. m.; pop. about 125,000. The country is elevated and rugged, lying mostly between the Kuen-lun range and the Rupshu, Spiti, and Zaskar mountains. The river Indus flows N. W. between these ridges, its elevation here being about 15,000 feet above the sea. The climate is cold and arid. The soil is sterile, but the slopes, being industriously cultivated, produce wheat, barley, buckwheat, apples, and apricots. Iron, lead, copper, and sulphur are found in considerable quantities. The people of Ladakh are mostly Thibetans. They are mild, good-humored, peaceable, and honest, but very sensual. They carry on a trade in wool, used for the manufacture of Cashmere shawls. The country was formerly governed by independent despots, from whom it was wrested by Gholab Sing, the late rajah of Cashmere, in 1835. Capital, Leh.

LADANUM, or LABDANUM, a resinous exudation of various evergreen shrubs of the genus *cistus*, principally of the *C. Creticus*, found in the islands of the Grecian archipelago and the neighboring countries. It is collected by drawing over them a kind of rake with leather teeth, to which the juice adheres. It is said to have been collected also by combing the beards of the goats that browse among the shrubs, and is still so gathered from the fleeces of the sheep. The purer variety sometimes found in commerce is put up in bladders in masses of several pounds each. The substance readily softens and becomes adhesive in the hand. Externally it is dark red, almost black, and internally grayish. It diffuses an agreeable balsamic odor, and has a bitter and somewhat acrid taste. The common quality is very largely mixed with sand and other foreign matters; it is in spiral-shaped pieces of dark gray color, and hard and brittle. It contains only about 20 per cent. of resin, while in the purer quality 86 per cent. has been found; the other ingredients are gum and wax, with malate of lime, and in the common quality 72 per cent. of foreign substances. Ladanum is used in fumigation, and has been employed in medicine as a stimulant expectorant, and also as an ingredient of plasters.

LADD, WILLIAM, an American philanthropist, born in Exeter, N. H., in 1778, died in Ports-

mouth, April 9, 1841. He was graduated at Harvard college in 1797, and subsequently took an active part in organizing the American peace society, of which he was for many years president, and in behalf of which he labored efficiently until the close of his life. In the interests of this society he edited the "Friend of Peace," commenced by Dr. Noah Worcester, and the "Harbinger of Peace," and published a number of essays and occasional addresses on the subject of peace. He carried his views to the extent of denying the right to maintain defensive war, and caused this principle to be incorporated into the constitution of the American peace society.

LADINO (Sp., versed in an idiom, or speaking different languages fluently), a term applied throughout Central America to the half-breed descendants of whites and Indians—originally only to the offspring of the Spanish conquerors by native women. It was sometimes used by the royal governors and officers in Central America, very nearly in the sense of *criollo* or *creole*, as distinguishing Spaniards born in the country from those who had emigrated from the Peninsula. Since the independence of the country, this name, in common with others implying distinctions of race or caste, has fallen into disuse, and is now rarely heard.

LADISLAS II., king of Poland, born in Lithuania in 1848, died in Grodek, near Lemberg, Galicia, May 31, 1434. He was the son of Olgerd and grandson of Gedimin, great princes of Lithuania, and as a pagan prince, though the son of a Christian mother, received the name of Jagiello or Jagello. He succeeded his father in Lithuania, defending his rights against his uncle Kieystut, and in 1386, having married Hedvig, the beautiful and pious younger daughter of Louis the Great, king of Hungary and Poland, became a Christian and received the Polish crown. He converted Lithuania to Christianity, placed its government in the hands of one of his brothers, and subsequently of Witold, the son of Kieystut, and finally united it with Poland. He was successful in his wars against the Teutonic knights, whom he routed in the battle of Grünwald (1410). He thus greatly contributed to the development of the power of his kingdom, which was ruled by his dynasty down to 1572, when it became an elective state.—His son and successor, LADISLAS III., having been elected king of Hungary, waged war with the Turks, made peace with them, broke his oath, and fell in the battle of Varna (1444). He was succeeded in Poland by his brother Casimir IV.

LADOGA, a Russian lake, and the largest in Europe. It is surrounded by the Russian governments of Viborg, Olonetz, and St. Petersburg, between lat. 59° 58' and 61° 46' N., long. 29° 50' and 32° 55' E.; greatest length 130 m., breadth 70 m.; area, 6,800 sq. m. Its depth is very variable, being in some places 150 fathoms, and in others too shallow for navigation. Its coast is generally low, much indented, and dangerous from hidden reefs. Its waters abound

with fish. Storms are frequent and sudden, and the influx of 70 streams causes strong and uncertain currents. It is connected with Lake Onega by the river Svir, with Lake Ilmen by the Volkhov, and with the gulf of Finland by the Neva. It contains several islands, some of them inhabited; the largest are Valamo on the N. and Konovitz on the S. The principal towns on its coasts are Kexholm, Schlüsselburg, Serdopol, and Novaia (New) Ladoga. The Ladoga, Siasi, and Svir canals form a continuous line around the S. and S. E. of the lake.

LADRONE, MARIANNE, OF MARIANA ISLANDS, a group of about 20 islands, of volcanic formation, in the N. Pacific ocean, N. of the Caroline islands, between lat. 18° and 21° N., long. 144° and 146° E. Only 5 are inhabited; pop. 10,000. When the Spanish missionaries sent by Queen Mariana, widow of Philip IV. of Spain, established themselves on the islands toward the end of the 17th century, the natives numbered 40,000. The present inhabitants are mostly descendants of settlers from Mexico and the Philippines. The soil is fertile in sugar, rice, corn, tobacco, cotton, and indigo. The climate is salubrious, the heat being tempered by the trade winds. Horses, cattle, and llamas were early introduced by the Spaniards; wild hogs are numerous and of huge size. The islands yet belong to Spain. The principal are Guahan or Guam, Rota, Agniguan, Saypan, Anatchan, and Tinian. Lord Anson visited Tinian in 1742, and found there cyclopean ruins. The seat of government is at St. Ignazio de Agaña, on the island of Guahan, the most southerly of the group, where there is also a good fortified harbor. The general navigation is rendered dangerous by shoals and currents. A pearl fishery exists on the coast of Saypan. Magellan discovered the islands in 1591. They were named Ladrone from the thievish disposition of the natives; and Marianne or Mariana in honor of the Spanish queen.—There are two other small groups of islands called Ladrone: one in China at the mouth of the bay of Canton, a great resort of pirates; and the other in the Pacific off the coast of New Granada.

LADY (Anglo-Saxon, *hlafdia*, *hlafdig*), a word supposed to have signified originally "loaf-giver" (Goth. *hlaf*, loaf, and *dian*, to serve or distribute), from the practice of the wives of the rich distributing bread to the poor, or to their guests and domestics. Tooke, however, derives it from *hlifian*, to lift, *i. e.*, one raised to the rank of her husband or lord. As a title of honor in England, lady is the correlative of lord; it belongs of right to the daughters of all peers above the rank of viscount, and is extended by courtesy to the wives of baronets and knights. In common usage the term is employed also in speaking of women of the better classes generally, and in the United States of almost any well dressed female.

LADY-BIRD (sometimes called LADY-BUG), a small beetle of the trimerous division, and the genus *coccinella* (Frisch). In this extensive and

well known genus the body is hemispherical, the thorax very short, the antennæ composed of 11 joints and the tarsi of 8, the elytra convex, the under surface flat, and the legs short; the digestive canal is nearly straight, and as long as the body. The general colors are red, yellow, or orange with black spots, or black with white, red, or yellow spots. There are many species described. The larvæ are small, bluish, flattened grubs, spotted with red or yellow, and with 6 legs on the anterior part of the body; they are hatched from yellowish eggs, of a disagreeable odor, laid usually in the spring in clusters among the *aphides* or plant lice. Both the larvæ and the perfect insects destroy immense numbers of these lice, and are therefore among the best friends of the agriculturist; when found upon plants they are in quest of their insect prey, and deprive vegetation of none of its juices, and they are entirely guiltless of producing the potato rot or any other similar disease. There are some very small lady-birds of a blackish color, and with a few short hairs, of the genus *scymnus*, whose larvæ are as savage among the plant lice as the lion among the smaller mammals. These genera contain some of the prettiest of insects.

LÆLIUS, CAIUS, surnamed SAPIENS, a Roman publicist, born about 186 B. C., died about 115. He was tribune of the people in 151, prætor in 145, and consul in 140. After his consulship he was assigned the province of Lusitania, and conducted a successful campaign against the formidable guerilla chief Viriathus. At the commencement of his political career Lælius inclined to that party in the state which sought to infuse vigor into the masses, by raising them to the condition of territorial proprietors; but the excitement and violence to which the measures of the elder Gracchus had given birth so alarmed him that he at length withdrew from the popular side, and supported the aristocracy. In 182 he aided the consuls against the partisans of Tiberius Gracchus, and in 180 he opposed the passing of the Papirian rogation. For the course which he pursued in that period, his friends and faction honored him with the cognomen of *Sapiens*, or the Wise. In common with the younger Scipio, he had early applied himself to the language and learning of Greece, and had imbibed the doctrines of the stoics from the philosophers Diogenes of Babylon and Pænætius. Cicero was a great admirer of the politics and character of Lælius, and introduces him as a leading interlocutor in several of his dialogues. Seneca counselled his friend Lucilius "to live like Lælius" if he would live worthily.

LAENNEC, RENÉ THÉODORE HYACINTHE, a French physician, the discoverer of mediate auscultation, and the inventor of the stethoscope, born in Quimper, Lower Brittany, Feb. 17, 1781, died there, Aug. 18, 1826. He began the study of medicine under his paternal uncle, a distinguished physician of Nantes. In 1800 he went to Paris, and attached himself to the clinical school of the charity hospital, then directed

by Corvisart. He obtained the degree of M.D. in 1814, and became principal editor of the *Journal de médecine*. In 1816 he was appointed chief physician of the Necker hospital, where he soon after made that discovery which has immortalized his name. In 1819 he published his great work entitled *Traité de l'auscultation médiante et des maladies des poumons et du cœur*, a good English translation of which was made by Dr. Forbes of Chichester. In 1821 he was nominated private physician to the duchess of Berry, and professor of medicine in the college of France. But ill health soon compelled him to resign and retire to his native town, in which his latter days were spent. (See AUSCULTATION.)

LAER, or LAAR, PETER DE. See BAMBOOCIO.

LAFARGE, MARIE CAPPELLE, a French woman notorious for her condemnation as a poisoner, born in Villers-Hellon, Aisne, in 1816, died in Ussat, a watering place in the Pyrénées, Nov. 7, 1852. She belonged to a good family; but having lost her parents when a child, she was carelessly educated and left to indiscriminate novel reading. Living at the house of her aunt, Mme. Garat, the wife of the secretary-general of the bank of France, she was accustomed to all the refinements of Parisian life; but after the death of her grandfather in 1838, having married Pouch-Lafarge, an owner of iron works in the department of Corrèze, her husband, who had represented himself as a wealthy country gentleman, took her to an old, dilapidated, and scantily furnished house, where she had to attend to the common duties of a housekeeper, with a husband whose vulgar manners were repugnant to her taste, and a hard-tempered mother-in-law who was predisposed against her. Her disappointment found vent in bursts of anger, followed by family quarrels and deep-seated rancor. After about 16 months her husband was seized with a strange illness; she nursed him with apparent affection; but, under her almost exclusive care, his condition became worse every day, and within a fortnight he died. Strong suspicions of poison arose, and were soon fixed upon Mme. Lafarge, who at that time, it was proved, had twice purchased arsenic under pretence of killing rats. She was consequently arrested, and when in confinement was charged by one of her relations with having stolen a set of diamonds; and these having been found in her possession, she was sentenced to two years' imprisonment (April, 1840). Not daunted by this, she published her *Mémoires*, in which she represented herself as the victim of a deep-laid conspiracy, and declared her innocence of both robbery and poisoning. These *Mémoires*, which were extensively read, convinced many of her innocence, while they increased the hostility of her opponents. The public at home and abroad became interested in her case. She secured the services of three eminent advocates; and in the first stage of the trial the evidence against her was so slight that a verdict of acquittal was confidently expected by her friends, when the cele-

brated Orfila, who had been intrusted with a chemical examination of the body of the deceased, reported the discovery of evidences of poison. Mme. Lafarge was found guilty and sentenced to hard labor for life (Sept. 1840). Public opinion was still divided. The eminent chemist Raspail vigorously impugned the report of Orfila, and a bitter controversy ensued. The convict, who meanwhile had been incarcerated in the central prison at Montpellier, continued to be the recipient of marks of sympathy. After 12 years of imprisonment she was permitted to remove to the convent of St. Rémy, and the interest manifested in her behalf on account of her failing health contributed to procure her liberation in June, 1852. She removed to the watering place where she breathed her last, still protesting her innocence. A small volume under the title of *Heures de prison*, containing her thoughts during her confinement, was published after her death.

LAFAYETTE, the name of 5 counties in the United States. I. A N. co. of Miss., drained by Tallahatchee river and its tributary the Yocknapatafka; area, 790 sq. m.; pop. in 1850, 14,069, of whom 5,719 were slaves. It has a rolling surface covered here and there with small tracts of timber. The soil is fertile. The productions in 1850 were 562,530 bushels of Indian corn, 105,700 of sweet potatoes, 45,985 lbs. of rice, 22,288 of honey and wax, and 10,887 bales of cotton. There were 11 grist mills, 17 saw mills, 2 newspaper offices, 38 churches, and 469 pupils attending public schools. The Mississippi central railroad passes through Oxford, the capital. II. A S. parish of La., traversed by Vermillion river, which is navigable by steamboats; area, 850 sq. m.; pop. in 1855, 7,798, of whom 3,816 were slaves. The surface is level and the soil rich and alluvial. The productions in 1855 were 145,910 bushels of Indian corn, 87 bbls. of rice, 3,021 of molasses, 1,882 hhd. of sugar, and 5,753 bales of cotton. The New Orleans, Opelousas, and great western railroad, now in progress, is to pass through the parish. Capital, Vermillionville. III. A S. W. co. of Ark., bordering on La. and Tex., and traversed by Red river and its Sulphur fork; area, 1,260 sq. m.; pop. in 1854, 3,445, of whom 2,311 were slaves. It has a good soil and a level surface, consisting partly of prairie. The productions in 1854 were 203,136 bushels of Indian corn, 100 of wheat, 4,260 of oats, and 8,211 bales of cotton. Capital, Lewisville. IV. A W. co. of Mo., bounded N. by the Missouri river and drained by a number of small streams; area, 450 sq. m.; pop. in 1856, 17,070, of whom 6,107 were slaves. It was formerly called Lillard. The surface is undulating and well timbered. Limestone, sandstone, and coal are abundant, and the soil is remarkably fertile. The productions in 1850 were 788,675 bushels of Indian corn, 83,037 of wheat, 94,075 of oats, 2,462 tons of hemp, 2,358 of hay, 154,668 lbs. of butter, and 82,925 of wool. There were 4 grist mills, 7 saw mills, 2 newspaper offices, 22 churches, and 962 pupils

attending public schools. Capital, Lexington. V. A S. W. co. of Wis., bordering on Ill., and drained by Fevre and Pekatonica rivers; area, 630 sq. m.; pop. in 1855, 16,064. It has an undulating surface, thinly timbered. In the N. W. part are several regular hills called the Platte mounds. Lead, copper, and limestone are abundant. The soil is fertile. The productions in 1850 were 91,491 bushels of Indian corn, 62,283 of wheat, 175,851 of oats, 18,804 of potatoes, and 9,196 tons of hay. There were 6 saw mills, 18 churches, and 3,208 pupils attending public schools. Capital, Shullsburg.

LAFAYETTE, a city of Indiana, capital of Tippecanoe co., situated at the head of navigation on the E. bank of Wabash river, 63 m. N. W. from Indianapolis; pop. in 1850, 6,129; in 1859, about 11,000. It is built on rising ground enclosed in the rear by hills and cliffs, and, including its suburbs, covers an area of 2 miles square. It is on the line of the Wabash and Erie canal, and the Toledo, Wabash, and western, the New Albany and Salem, the Lafayette and Indianapolis, and the Lafayette and La Salle railroads, by means of which and the river it is enabled to command the trade of a rich and extensive surrounding prairie country. It has a well of sulphur water, resembling in its analysis the Blue Lick springs of Kentucky. In 1859 the city contained 15 churches (1 Baptist, 1 Christian, 1 Episcopal, 1 Lutheran, 3 Methodist, 3 Presbyterian, 2 Roman Catholic, 1 United Brethren, 1 Unitarian, and 1 Universalist), 2 daily, 2 tri-weekly, and 3 weekly newspapers, a branch of the bank of the state of Indiana, a number of good hotels, several public and private schools, an insurance office, flour mills, iron foundries, brick yards, 2 manufactories of agricultural implements, a paper mill, a woollen factory, a planing mill, 3 soap and candle factories, 2 breweries, 2 distilleries, and 2 tanneries. It was laid out in 1825, and received its present municipal charter in 1857.

LAFAYETTE, MARIE JEAN PAUL ROCH YVES GILBERT MOTIER, marquis de, a general of the American revolution and a French statesman, born at the chateau of Chavagnac, near Brioude, Auvergne (in the present department of Haute-Loire), Sept. 6, 1757, died in Paris, May 19, 1834. His family was one of the most ancient and eminent in the French nobility. One of his ancestors was a marshal of France, distinguished for his military achievements, and particularly for defeating and killing the duke of Clarence at Beaugé, an action which saved his country from entire conquest by Henry V. of England. Another of his ancestors, Mme. de Lafayette, the intimate friend and correspondent of Mme. de Sévigné, was one of the most brilliant ornaments of the court of Louis XIV., and the author of the first romance which relied for its success on domestic character. His father, the marquis de Lafayette, was an officer of the army, and fell in battle in Germany at the age of 25. His mother died soon afterward, and he was thus left while yet an infant

the heir to an immense estate. At an early age he was sent to the college of Plessis at Paris, and when only 16 married a lady still younger than himself, a daughter of the count d'Ayen, son of the duke de Noailles. He entered the army as an officer of the guards, and in 1776 was stationed at Metz with his regiment, in which he was a captain of dragoons. At a dinner given by the commandant of the garrison to the duke of Gloucester, brother of the king of England, who was then on a visit to Metz, Lafayette heard that the American colonies had declared their independence. Before he left the table he had mentally resolved to draw his sword in the cause of American liberty, and he repaired immediately to Paris to make arrangements for the execution of his plan. He became acquainted with the American agents in Paris, Franklin, Deane, and Arthur Lee, and communicated to them his intention of proceeding to America. This was at the darkest period of the revolutionary war, and the news had just reached France of the occupation of New York, of the loss of Fort Washington, and of the disastrous retreat of the Americans through New Jersey. The cause of America looked desperate enough, and the few friends whom Lafayette had apprised of his design urged him to abandon so wild and hopeless a scheme. Even the American commissioners told him they could not in conscience urge him to go. They had not the means even to give him a passage across the Atlantic. But the resolution of Lafayette was inflexible. He replied to the commissioners that the more desperate were the affairs of the Americans, the more necessity was there for giving them assistance; and as for passage, he would purchase a vessel for himself and his companions. He accordingly caused a vessel to be secretly fitted out at Bordeaux. While his preparations were going on, to avert suspicion from himself, he made a visit to his kinsman the marquis de Noailles, then French ambassador in London; but while in Great Britain he scrupulously abstained from using the opportunity afforded of obtaining military information that might be of service to the Americans, carrying his point of honor so far as to decline visiting the naval establishment at Portsmouth. At the end of 3 weeks he returned to France, and without passing through Paris hastened to Bordeaux. Here he learned that the British ambassador at Paris had penetrated his design, and that the government had given orders for his arrest. Though his ship was not quite ready, he instantly made sail for Passages, the nearest port in Spain, where he had scarcely arrived when he was waited upon by two French officers with an order from the king of France directing him to repair to Marseilles. They also brought letters from his relatives censuring him for his conduct, and requesting him to return home; but his young wife, who was devotedly attached to him, and who shared his enthusiasm for American liberty, wrote urging him to stand firm and to proceed on his enterprise. He re-

turned with the officers to Bordeaux by land, leaving his vessel at Passages, and in apparent obedience to the royal command set out for Marseilles; but soon after leaving Bordeaux he took the road to Spain, and, though closely pursued, succeeded in reaching Passages, where he instantly embarked and put to sea. He was accompanied by 11 officers, among them the German veteran baron de Kalb. His departure created a great sensation not only in France but in England. "We talk chiefly," says Gibbon in a letter from London, April 12, 1777, "of the marquis de Lafayette, who was here a few weeks ago. He is about 20, worth 180,000 livres a year, the nephew of Noailles, who is ambassador here. He has bought the duke of Kingston's yacht, and is gone to join the Americans." The passage to America was long and stormy, and there was much danger from the English cruisers on the coast. Lafayette and his companions, however, safely effected a landing in the night near Georgetown, S. O., and, though at first taken for a party of the enemy, were at length received and hospitably entertained in the house of Major Huger, who conveyed them the next day, April 25, to Charleston, where they were received with enthusiasm. "The sensation produced by his appearance in this country," says Mr. Ticknor, "was, of course, much greater than that produced in Europe by his departure. It still stands forth as one of the most prominent and important circumstances in our revolutionary contest; and, as has often been said by one who bore no small part in its trials and success, none but those who were then alive can believe what an impulse it gave to the hopes of a population almost disheartened by a long series of disasters. And well it might; for it taught us that in the first rank of the first nobility in Europe, men could still be found who not only took an interest in our struggle, but were willing to share our sufferings; that our obscure and almost desperate contest for freedom in a remote corner of the world, could yet find supporters among those who were the most natural and powerful allies of a splendid despotism; that we were the objects of a regard and interest throughout the world, which would add to our own resources sufficient strength to carry us safely through to final success." From Charleston Lafayette proceeded by land to Philadelphia, where congress was then in session. On his arrival he addressed a letter to the president of that body, asking leave to enter the army as a volunteer and to serve without pay. Congress expressed its high sense of the value of his example and of his personal worth by the following resolution: "Whereas the marquis de Lafayette, out of his great zeal to the cause of liberty, in which the United States are engaged, has left his family and connections, and at his own expense come over to offer his services to the United States, without pension or particular allowance, and is anxious to risk his life in our cause: Resolved, that his services be accepted, and that, in consideration of his zeal, illustrious

family and connections, he have the rank and commission of major-general in the army of the United States." His commission was dated July 31, 1777, while he yet lacked more than a month of being 20 years of age. The appointment, however, was considered by congress as merely honorary; but it speedily became apparent that Lafayette was bent on serious service, and was well qualified to command. Washington was then with the army, but he soon arrived at Philadelphia, and he and Lafayette met for the first time at a dinner party. The young Frenchman made a highly favorable impression upon the sagacious and circumspect commander-in-chief, and at the close of the entertainment Washington took him aside, thanked him warmly for the sacrifices he had made in the American cause, and invited him to regard himself at all times as a member of his military family. The personal acquaintance thus commenced soon ripened into an intimacy that was never for a moment interrupted. The private correspondence of Washington shows that he not only felt for Lafayette the warmest affection, but that he entertained the highest opinion of his military talent, personal probity, and general prudence and energy. The youthful major-general was first in active service at the battle of Brandywine, Sept. 11, where he had no separate command, but was attached to the staff of Washington as a volunteer. He plunged into the hottest of the fight, and when the defeated Americans began to retreat, threw himself from his horse, entered the ranks, and exerted himself to rally them. He was shot by a musket ball through the leg, but so ardently was he engaged that he was unconscious of the wound till his aid told him that the blood was running from his boot. He rode with a surgeon to Chester, but would not suffer his wound to be dressed till he had restored order among the troops who were retreating in confusion through the village. It was two months before his hurt was sufficiently healed to enable him to rejoin the army. On Dec. 1 congress resolved "that Gen. Washington be informed that it is highly agreeable to congress that the marquis de Lafayette be appointed to the command of a division in the continental army." This resolve was passed at the request of Washington himself, who 8 days afterward directed Lafayette to take command of the division of Gen. Stephen, who had been dismissed from the army for intemperance. About this period the board of war, of which Gates was the head and which had been created and was controlled by the faction hostile to Washington, planned an expedition to Canada which was approved by congress; and Lafayette was appointed to the command in the expectation that so flattering a distinction would attach him to the party by whom it was conferred. The first intimation that Washington had of the project was from the letter to Lafayette announcing his appointment. The young Frenchman, indignant at the slight offered to his chief in not consulting him,

carried the letter immediately to Washington, told him he saw through the artifice, and would be governed by his advice. Washington advised him to accept the appointment, but told him he did not know where the means could be found to carry out such an expedition. Lafayette accordingly accepted the command, and proceeded to Albany, the designated head-quarters of the expedition; but after waiting 3 months for the promised force and supplies, during which period he took measures for putting the Mohawk valley in a state of defence, he at length received orders from congress to join the army at Valley Forge, and to suspend the irruption into Canada. He returned to the camp in April, 1778, and on May 18 was despatched by Washington from Valley Forge to Barren Hill, 12 miles distant, where he took post with 2,100 men and 5 pieces of cannon. Sir Henry Clinton, the British commander at Philadelphia, on the night of May 19 sent Gen. Grant with 5,000 men to surprise Lafayette. The negligence of the militia outposts permitted the British to approach within a mile before they were discovered, and early in the morning Lafayette found himself nearly surrounded by a greatly superior force of the enemy. But the young general was equal to the emergency. A dexterous stratagem and a skilful movement, promptly conceived and executed, baffled the British general, and conveyed the Americans with their artillery safely across the Schuylkill and back to Valley Forge, where they were greeted with enthusiasm by the main body of the army, which had witnessed from the heights their peril and successful extrication. His conduct in this affair called out the warmest expressions of approbation from Washington. At the battle of Monmouth, June 28, Gen. Lee, to whom as next in rank to the commander-in-chief the command of the advanced forces belonged, refused at first to take it, and Washington gave it to Lafayette; but Lee subsequently changed his mind and applied to be reinstated, to which Lafayette assented with his accustomed grace and disinterestedness, and served under Lee during the battle, in which he displayed great gallantry. Seeing at one point of the engagement a good opportunity to attack the enemy with his division, he rode up to Lee and asked permission to make the attempt. "Sir," replied Lee, "you do not know British soldiers; we cannot stand against them." Lafayette replied: "It may be so, general; but British soldiers have been beaten, and they may be again; at any rate I am disposed to make the trial." Lee yielded to the Frenchman's ardor and gave him permission to attack, which he did with vigor and success until Lee, on beginning the "unnecessary, disorderly, and shameful retreat" for which he was afterward punished by court martial, ordered him to fall back. A few weeks later Lafayette was sent with two brigades of infantry to assist Gens. Greene and Sullivan in the attempt to drive the British from Rhode Island, in which they had at first the assistance of a French fleet under Count d'Estaing,

France having now declared war against England and formed an alliance with the United States. D'Estaing, however, before any thing of importance was effected, withdrew with his fleet to Boston harbor for repairs, in spite of the remonstrances of the American generals. Lafayette was despatched to Boston to endeavor to persuade him to return to Newport, but could only get a promise from him that if required he would march his marines by land to the aid of the Americans. During Lafayette's absence an engagement took place, Aug. 29; and though he rode from Boston to Rhode Island, 70 miles, in 6½ hours, he arrived, to his great disappointment, only in time to assist in conducting the retreat from the island, which the American commanders had decided upon, on learning of the approach of the British fleet with a fresh army on board. Writing to Washington, he said: "That there has been an action fought where I could have been and was not, will seem as extraordinary to you as it seems to myself." Congress on Sept. 19 adopted resolutions thanking Gen. Sullivan and those under his command for their conduct in the action and retreat, and especially requesting the president to inform Lafayette of their sense of his personal sacrifice in going to Boston, and his gallantry in conducting the rear guard and pickets during the retreat. The good understanding between the French and American troops had been somewhat impaired by the conduct of D'Estaing, and Lafayette was of essential service in restoring harmony between them at this most important crisis of the war, when there was danger that fatal dissensions might arise between the new allies.—His own country being now at war, Lafayette, who still retained his commission in the French army, deemed it his duty at the end of the campaign of 1778 to return to France and place himself at the disposal of his government, and at the same time to exert himself in behalf of America by personal conferences with the French ministry. At the particular request of Washington, congress granted him leave of absence, accompanied by resolutions of a complimentary character, and by a letter recommending him to the good offices of the American minister in Paris. Congress also voted that a sword should be presented to him adorned with appropriate emblematic devices. He was detained for a while at Fishkill by a severe illness, but at length embarked for France at Boston in Jan. 1779, on board the American frigate *Alliance*. He returned home, says Mr. Everett, "after two years of absence, marked with honorable scars, and signalized by the thanks of congress, the admiration of America, and the friendship of Washington." He was received with extraordinary demonstrations of popular enthusiasm by all classes of society. His name, introduced into dramatic performances, called out acclamations at the theatres; he was followed by crowds in the streets wherever he went; he made a journey to one of his estates in the south of France, and all the towns through

which he passed received him with processions and civic honors; and in the city of Orleans he was detained nearly a week by prolonged festivities in honor of his return. Amid the admiration and flattery with which he was surrounded he did not neglect the interests of America. He was equally untiring and adroit in his efforts to persuade the French government to send an army to assist the Americans, and also to get a supply of money for the treasury of the United States, which was then in the most destitute condition. The finances of France herself were anything but prosperous, and the obstacles to be overcome before the French ministry could be induced to yield the requisite assistance were of the most formidable nature. But the ardor and perseverance of Lafayette at length triumphed. It was mainly his personal efforts that caused the army of Rochambeau to be sent to America. "It is fortunate for the king," said the old count de Maurepas, the head of the ministry, "that Lafayette did not take it into his head to strip Versailles of its furniture to send to his dear America, as his majesty would have been unable to refuse it." Having procured for the United States assistance both with men and money, Lafayette promptly recrossed the Atlantic, landing at Boston, and on May 11, 1780, after an absence of 15 months, rejoined Washington at the headquarters of the army, bringing himself the first intelligence of his success and of the approaching French succors. He brought also a commission from Louis XVI. appointing Washington a lieutenant-general of the army of France and vice-admiral of its navy, a measure intended, as it afterward operated, to prevent difficulties respecting official etiquette between the French and American commanders. A French fleet bringing Rochambeau and 6,000 soldiers arrived at Newport July 10. As soon as he heard of their arrival, Washington despatched Lafayette to concert measures with Rochambeau for future operations. Soon after his return he was stationed at Tappan on the Hudson in command of 6 battalions of light infantry, watching the movements of the British under Sir Henry Clinton, with whom Arnold, then in command at West Point, was secretly negotiating for the betrayal of that important fortress. Arnold made an attempt to obtain from Lafayette the names of the spies he maintained in New York city, on pretence that intelligence from them might often be conveyed more expeditiously by way of West Point; but Lafayette prudently, and as it turned out fortunately, declined to communicate them. After the discovery of Arnold's treason, Lafayette was one of the court of 14 general officers, convened at Tappan, Sept. 29, by whom Major André was tried as a spy and condemned to death. During Arnold's invasion of Virginia in the beginning of 1781 Washington sent Lafayette, Feb. 20, with 1,200 men of the New England and New Jersey lines, to assist in the defence of that state. They arrived at Annapolis in a state of great destitution, without shoes, hats, or tents. The United States

having neither money nor credit, he purchased for them a full supply with his own funds. His presence inspired the militia of Virginia with fresh hope, and his force was soon doubled in numbers. Toward the end of May Lord Cornwallis took command of the British in Virginia, and, with his usual energy, on the 4th day after his arrival he marched to attack Lafayette, who with about 8,000 troops was posted half way between Richmond and Wilton. Confident in his superiority of numbers, Cornwallis was so sure of success that he wrote home: "The boy cannot escape me." Lafayette, however, made a skilful retreat to the northward, and, though pursued with unusual activity, made his way safely to the Raccoon ford on the Rappahannock in Culpepper county, where he was joined by Gen. Wayne, who had marched from Maryland to his assistance with 800 men. Strengthened by this reinforcement, Lafayette again advanced, and interposed himself in a strong position near Charlottesville between the British army and some large quantities of stores removed from that town on the enemy's approach. Cornwallis marched off toward Williamsburg, pursued by Lafayette, a portion of whose troops overtook the British, July 6, at the Jamestown ford where a sharp action was fought. Continuing his retreat, Cornwallis at last took post at Yorktown. "Lafayette conducted this campaign," says Mr. Everett, "with a vigor, discretion, and success, which saved the state of Virginia, and proved himself to be endowed with the highest qualities of generalship." Having driven the British into Yorktown, he stationed his army so as to cut off their retreat into the Carolinas, and awaited the reinforcements from the north, which came a few weeks later under the command of Washington and Rochambeau. For his services during the siege of Yorktown, where in conjunction with Hamilton he commanded one of the assailing parties, he was publicly thanked by Washington on the day after the surrender of Cornwallis.—At the close of the campaign he returned to France. In granting him leave of absence, congress passed resolutions acknowledging his eminent services, and directing all the ministers of the United States in Europe to confer and correspond with him. He was received with the highest enthusiasm in France, and his request for additional men and money for service in America was readily complied with. The enthusiasm spread from France to Spain, and a great expedition of 60 vessels of the line and 24,000 troops was organized to sail from Cadiz under the command of Lafayette, who led 8,000 men from Brest to Cadiz. Soon after his arrival, however, he heard the tidings of the conclusion of peace at Paris; and it was from a letter which he sent from Cadiz, Feb. 5, 1788, that congress first learned the news of the treaty. In 1784, at the invitation of Washington, he revisited the United States, landing at New York, Aug. 4, and proceeding almost immediately to Mount Vernon. He subsequently visited Anna-

polis, Baltimore, Philadelphia, New York, Albany, and Boston, receiving everywhere the warmest testimonials of affection and respect. On his departure in December, congress appointed a solemn deputation of one member from each state to take leave of him on behalf of the whole country. In the year after his return to France he visited Germany, where he was received with much distinction. Frederic the Great paid him marked attention, and took him with him on a military tour of inspection and review. For some years he now occupied himself with efforts to ameliorate the political condition of the French Protestants, and in promoting the abolition of slavery in the colonies. He purchased a plantation in Cayenne, emancipated the slaves, and expended a large sum in their education. The assembly of the notables at Paris, Feb. 22, 1787, was the first step in the French revolution. Of that assembly Lafayette was a member, and contributed essentially to give character to its deliberations. He stepped forth at once the champion of the people, denounced the abuses of the government, proposed the abolition of private arrests and of the prisons of state, the restoration of Protestants to the equal privileges of citizenship, and the convocation of the states-general. "What!" said the count d'Artois, the brother of the king, and afterward king himself as Charles X., "do you demand the states-general?" "Yes," replied Lafayette, "and something better than that." The states-general, which soon became the constituent assembly, met May 3, 1789. According to Jefferson, its initiatory movements were concerted by Lafayette and a small circle of friends at the hotel of Jefferson himself. He proposed in this body a declaration of popular rights not unlike that of the American declaration of independence, and it was by his influence that on the night of July 18, while the Bastille was falling before the people, the decree providing for the responsibility of the royal ministers was carried through. Two days afterward he was appointed commander-in-chief of the national guards of Paris, an organization which rapidly extended throughout the kingdom until it embraced 3,000,000 men, and under his effective management became the controlling power of the country. It was at his suggestion that the tri-color was adopted, July 26, an emblem destined, as he said, to make the tour of the world. His history for a time now became almost the history of France; and while he retained his power it was always exercised on the side of moderation, humanity, and constitutional liberty. A loyal subject, though in principle a firm republican, he defended the freedom of the king as sincerely as he had ever defended the freedom of the people. His courage and coolness during the dreadful tumults of Oct. 5-6 saved the lives of the king and queen from a ferocious mob that had taken possession of the palace of Versailles. When the national assembly decreed the abolition of feudal titles, Lafayette was among the first to lay down that of marquis, which he never

resumed; and the only title which he bore till his death was that of general, which he derived from his commission in the American army. After the splendid and imposing ceremony of the adoption of the constitution, July 14, 1790, in the Champ de Mars, where, in the presence of half a million of people, he took the oath to its support in the name of the nation, he resigned his command of the national guards in an able and patriotic letter, and retired to his estates in the country. When war was declared against the Austrians, March 20, 1792, he was appointed to the command of one of the armies sent to guard the frontier. He established discipline in the army, and won victories at Philippeville, Maubeuge, and Florennes. But the Jacobins, who were now becoming predominant in France, hated and feared him, and orders were sent to the camp from the ministry of war designedly to embarrass and annoy him. In return he addressed a letter to the assembly denouncing the Jacobins as enemies of the constitution and the people. The voice of reason for a moment was regarded, and a majority of the assembly and the local assemblies of 75 of the departments gave their formal sanction to his views. But violence at length prevailed, and on Aug. 8 he was denounced in the assembly as an enemy of the nation, and a motion was made for his arrest and trial. After vehement debates it was put to vote and lost by a majority of 407 to 224. But the terrible events of Aug. 10 soon followed, and the reign of terror was established. Commissioners were sent to the army with orders to arrest Lafayette. Arrest at that period was certain death. He saved himself by flight, after placing the army in such a position that his departure could not expose it to danger. He crossed the frontier Aug. 17, intending to take refuge in Holland. But he was seized the same night by an Austrian patrol, and being soon recognized was treated as a criminal and exposed to disgraceful indignities. He was handed over to the Prussians because their prisons were near at hand, and was at first confined at Wesel and afterward at Magdeburg. But the Prussians, unwilling to bear the odium of holding Lafayette a prisoner, soon transferred him again to the Austrians, who consigned him to damp and dark dungeons in the citadel of Olmütz. Here he was told that he would never again see any thing but the four walls of his prison; that he would never receive news of events or of persons; that his name would be unknown in the citadel, and that in all accounts of him sent to court he would be designated only by a number; that he would never receive any notice of his family, or of the existence of his fellow prisoners. At the same time knives and forks were kept from him, as he was officially informed that his situation was one which would naturally lead to suicide. The want of air and of proper food, and the dampness and filth of his dungeon, brought on dangerous diseases, of which his gaolers took no notice; and he was at one period reduced to such a state by his suf-

ferings that all his hair came off. His friends for a long time could get no intelligence of his fate; but at length the persevering inquiries of Dr. Erick Bollmann, a Hanoverian of great address and courage, who was employed by Count Lally-Tollendal, and who had established himself for the purpose as a physician at Vienna, ascertained that he was confined at Olmütz. The military physician of Olmütz by this time had thrice made a formal representation to the Austrian government that Lafayette would die unless he was allowed to breathe a purer air than that of his dungeon. To the first application the reply was made that "he was not sick enough yet;" but at length the outcry of public indignation in Europe compelled them to grant him permission to ride out occasionally in a carriage accompanied by two soldiers. Dr. Bollmann determined to attempt his rescue during one of these airings, and communicated his project to a young American then travelling in Austria, Francois K. Huger, a son of the gentleman at whose house Lafayette had been received on the night of his first landing in America near Charleston, S. C., in 1777. Huger devoted himself to the enterprise with romantic enthusiasm. The two friends went to Olmütz, where in his professional capacity Bollmann contrived to communicate with Lafayette and to agree upon a plan. Their carriage was sent to Hoff, a town 25 miles from Olmütz, and the coachman was directed to be in waiting at a certain hour on the day when Lafayette and his guard rode out. They themselves on horseback lay in wait at a part of the road where Lafayette was accustomed to descend from the carriage and walk. The moment he touched the ground, Lafayette, sick and unarmed as he was, attacked the guards and disarmed one of them, who fled in terror. After a violent contest he also disarmed the other, but in the struggle was badly wounded in the hand. His friends now came up, and placing him on one of their horses told him in English to go to Hoff. He misunderstood the word, and supposing they had merely said "Go off," rode away on the wrong road. Their other horse had been purposely trained to carry two persons, but in the confusion he became frightened and unmanageable, and Huger generously insisted that Bollmann should ride off alone while he made his escape on foot. He was soon arrested by some peasants who had witnessed the affair, while Bollmann arrived safely at Hoff, and, after waiting in vain for Lafayette, passed the frontier into Prussia, where he was soon arrested and delivered to the Austrians. Lafayette meanwhile rode toward Moravia, and, not well knowing the road, asked a peasant to guide him. His bleeding wound and his prison clothing excited the suspicions of the peasant, and he betrayed the fugitive to the police, who took him back to Olmütz next day. Bollmann and Huger were kept in dungeons for 8 months chained by the neck to the floor, but were at length released by the interference of Count Metrowsky, an Austrian nobleman of

liberal character residing near Olmütz. Lafayette himself was confined with redoubled severity. Meantime his wife, who had been put in prison at Paris during the reign of terror, obtained her liberty on the downfall of Robespierre. She then proceeded to Vienna, obtained with difficulty a personal interview with the emperor Francis, and gained permission to share her husband's captivity, under the hardship of which, however, her health soon became so impaired that she never fully recovered from its effects. Great exertions were now made both in Europe and America to obtain the release of Lafayette. In the house of commons Gen. Fitzpatrick, Dec. 16, 1796, made a motion in his behalf, which was supported by Col. Tarleton, who had fought against Lafayette in America, by Wilberforce, and by Fox. "The speech of the latter," says Mr. Everett, "is one of the most admirable specimens of eloquence ever heard in a deliberative assembly." President Washington wrote a letter to the emperor, asking for the liberation of his old companion in arms. The Austrian government was deaf to all entreaties. But an advocate now appeared whose plea was irresistible. Bonaparte at the head of his victorious army demanded the release of Lafayette in the preliminary conferences held at Leoben before the treaty of Campo Formio. He was often afterward heard to say that in all his negotiations with foreign powers he had never experienced so pertinacious a resistance as that which was made to this demand. The Austrian negotiators attempted to compel Lafayette to receive his freedom clogged with certain conditions; but in spite of his sufferings his spirit was unbroken, and he firmly replied that he would never accept his liberation in any way that should compromise his rights and duties, either as a Frenchman or as an American citizen. He was set free at last, Aug. 25, 1797, after an imprisonment of 5 years, 23 months of which had been shared by his wife. The unsettled condition of France yet precluded his return to his native country, and he took up his residence in Holstein, where he lived in retirement, occupying himself with agriculture, until toward the end of 1799, when he established himself at his estate of La Grange, a fine old chateau about 40 miles from Paris. Here he lived quietly, still occupied with agriculture and holding steadfastly to his republican convictions. Napoleon in a personal interview endeavored in vain to persuade him to take the post of senator. He also offered him the cross of the legion of honor, but Lafayette rejected it with disdain, calling it an absurdity. Of all the ancient nobility who returned to France, he and the young count de Vaudreuil were the only persons who refused the favors which Napoleon tendered to them. When the question was submitted to the people whether Napoleon should be first consul for life, Lafayette voted in the negative, and informed Napoleon of the fact in a letter, which put an end to their intercourse. Nothing could tempt him

from his retirement. President Jefferson offered to appoint him governor of Louisiana, then just become a territory of the United States; but he was unwilling by quitting France to appear to abandon the cause of constitutional freedom on the continent of Europe. During the Hundred Days after the return from Elba, when Napoleon granted to the people an elective house of representatives, Lafayette again appeared in public. He was chosen a representative, and took his seat in the chamber, refusing a peerage which the emperor offered him. On the first ballot for president of the house he had the highest number of votes; but he declined the honor, and exerted himself for the election of Lanjuinais. He took little part in the debates, however, till after Napoleon's return from Waterloo, when he took the lead in demanding the emperor's abdication. Lucien, the brother of Napoleon, opposed the motion to this effect in a speech of great power and eloquence. He denounced the proposition as a signal instance of inconstancy and national ingratitude. Lafayette rose, and, contrary to rule and custom, spoke from his place and not from the tribune. "The assertion which has just been uttered," he said, "is a calumny. Who shall dare to accuse the French nation of inconstancy to the emperor Napoleon? That nation has followed his bloody footsteps through the sands of Egypt and through the snows of Russia; over fifty fields of battle; in disaster as faithfully as in victory; and it is for having thus devotedly followed him that we now mourn the blood of three millions of Frenchmen." These few words made an impression on the assembly which could not be resisted; and as Lafayette ended Lucien himself bowed respectfully to him, and without resuming his speech sat down. After the entry of the allies into Paris, Lafayette returned to La Grange. Touched with a sympathy for Napoleon in his adversity which he had not felt at the height of his power, he offered to procure him the means of escaping to America; but Napoleon could not forgive his former opposition, and refused to accept his assistance. In 1818 Lafayette was elected to the chamber of deputies, where he voted constantly for all liberal measures, and opposed the censorship of the press and every thing that tended to infringe the constitutional rights of the people.—In 1824 the congress of the United States voted unanimously a resolution requesting President Monroe to invite Lafayette to visit the United States. He accepted the invitation, but declined the offer of a ship of the line for his conveyance, and with his son and secretary took passage on a packet ship from Havre for New York, where he landed Aug. 16, 1824. He was received everywhere with the utmost demonstrations of popular enthusiasm, and his progress through the country resembled a continuous triumphal procession. He visited in succession each of the 24 states and all the principal cities. "We rejoice," said Mr. Ticknor in the "North Amer-

ican Review," in Jan. 1825, "in common with the thousands who throng his steps wherever he passes, that we are permitted to offer this tribute of a gratitude and veneration, which cannot be misinterpreted, to one who suffered with our fathers for our sake; but we rejoice yet more for the moral effect it cannot fail to produce on us, both as individuals and as a people. For it is no common spectacle which is now placed before each of us for our instruction. We are permitted to see one who, by the mere force of principle, by plain and resolved integrity, has passed with perfect consistency through more remarkable extremes of fortune than any other man now alive, or perhaps any man on record. We are permitted to see one who has borne a leading and controlling part in two hemispheres, and in the two most important revolutions the world has yet seen, and has come forth from both of them without the touch of dishonor. We are permitted to see that man who first put in jeopardy his rank and fortune at home in order to serve as a volunteer in the cause of free institutions in America, and afterward hazarded his life at the bar of the national assembly, to arrest the same cause when it was tending to excess and violence. We are permitted to see the man who, after three years of unbroken political triumph, stood in the midst of half a million of his countrymen, comprehending whatever was great, wise, and powerful in the nation, with the *oriflammes* of the monarchy at his feet, and the confidence of all France following his words, as he swore on their behalf to a free constitution; and yet remained undazzled and unseduced by his vast, his irresistible popularity. We are permitted to see the man who, for the sake of the same principles to which he had thus sworn, and in less than three years afterward, was condemned to such obscure sufferings, that his very existence became doubtful to the world, and the place of his confinement was effectually hidden from the inquiries of his friends, who sent emissaries over half Europe to discover it; and yet remained unshaken and undismayed, constantly refusing all appearance of compromise with his persecutors and oppressors. We are, in short, permitted to see a man who has professed, amid glory and suffering, in triumph and in disgrace, the same principles of political freedom on both sides of the Atlantic; who has maintained the same tone, the same air, the same open confidence, amid the ruins of the Bastille, in the Champ de Mars, under the despotism of Bonaparte, and in the dungeons of Olmütz." While Lafayette was still in the country, congress, in Dec. 1824, voted him a grant of \$200,000 and a township of land, "in consideration of his important services and expenditures during the American revolution." His immense hereditary fortune had been mostly lost by confiscation during the reign of terror. On Sept. 7, 1825, he sailed from Washington in a frigate named in compliment to him the *Brandywine*. On his arrival at Havre the people assembled to make a demon-

stration in his honor, but were dispersed by the police. In Aug. 1827, he pronounced a funeral oration over the body of Manuel, a distinguished member of the chamber of deputies. In November of the same year the chamber was dissolved, and Lafayette was reelected. During the revolution of July, 1830, of which he became the acknowledged leader, he was appointed commander-in-chief of the national guards of Paris, and, though not personally engaged in the fight, his name and his experience and energy were of the greatest service to the liberal cause. His influence was successfully exerted to prevent the revolution from assuming a sanguinary character, and from proceeding to extremes which would have brought France into perilous collision with all the powers of Europe. He sacrificed his own republican preferences for the sake of peace and order, and placed Louis Philippe on the throne, "a monarchy surrounded by republican institutions." He soon resigned his commission as commander of the national guards, and confined himself to his duties as a representative of the people, and to the exercise of his moral influence as the acknowledged chief of the constitutional party on the continent of Europe. In attending in the winter and on foot the obsequies of a colleague in the chamber of deputies, he contracted a cold which settled on his lungs and caused his death. He received a magnificent funeral, and his body was buried, by his own direction, in the cemetery of Picpus in the faubourg St. Antoine.—"There have been those," says Mr. Everett, "who have denied to Lafayette the name of a great man. What is greatness? Does goodness belong to greatness and make an essential part of it? If it does, who, I would ask, of all the prominent names in history, has run through such a career, with so little reproach justly or unjustly bestowed? Are military courage and conduct the measure of greatness? Lafayette was intrusted by Washington with all kinds of service—the laborious and complicated, which required skill and patience—the perilous, that demanded nerve; and we see him keeping up a pursuit, effecting a retreat, out-manceuvring a wary adversary with a superior force, harmonizing the action of French regular troops and American militia, commanding an assault at the point of the bayonet; and all with entire success and brilliant reputation. . . . Lastly, is it any proof of greatness to be able, at the age of 73, to take the lead in a successful and bloodless revolution; to change the dynasty; to organize, exercise, and abdicate a military command of three and a half millions of men; to take up, to perform, and lay down the most momentous, delicate, and perilous duties, without passion, without hurry, and without selfishness?"—See "Eulogy on Lafayette, delivered in Faneuil Hall, Sept. 6, 1834," by Edward Everett; and *Mémoires et manuscrits de Lafayette*, published by his family (6 vols. 8vo., Paris, 1837-'8). There are also numerous biographies of him, both in French and English.

LAFFITTE, JACQUES, a French banker and statesman, born in Bayonne, Oct. 24, 1767, died in Paris, May 26, 1844. He was the son of a poor carpenter, but received a fair education. In 1788 he went to Paris, was admitted as a clerk in the banking house of Perregaux, rose to the rank of bookkeeper, and evinced such capacity for business that at the end of a few years he was offered a partnership by his employer. He at once became the leading spirit of the new firm, which through his management successfully extended the range of its operations. Such was the confidence Perregaux reposed in his integrity, that on his death he appointed him his executor. In 1809 Laffitte became one of the regents of the bank of France, and was elected a member of the tribunal of commerce in 1813; in the following year he was made president of the chamber of commerce and promoted to the governorship of the bank, which post he held for 5 years, refusing to draw the large salary attached to it. During the events of the two restorations, his liberality was equally conspicuous with his integrity; in 1814 he advanced the sum of 2,000,000 francs to the provisional government to relieve their embarrassments, and secure the pay of the French army who were to retire beyond the Loire; in 1815 he made himself responsible for the sum of 600,000 francs, exacted by Blücher as a war contribution from the city of Paris. Meanwhile he was banker of both Louis XVIII. and Napoleon, and faithfully discharged his confidential duties toward them under the most trying circumstances. When the latter finally left the capital, he placed in trust with Laffitte about 5,000,000 francs, which was afterward distributed according to his will. In 1816 the honest banker was elected to the chamber of deputies; and although he took his seat among the opposition, he was appointed member of a government committee on finance, and was instrumental in persuading the king to resist the imprudent tendencies of his adherents. In 1817 he was reelected; and in 1818, when the public credit was in danger, he prevented a commercial crisis by purchasing government stocks to the amount of several millions. While he opposed the general policy of the government, especially in 1823, when he denounced the armed intervention of the French in Spain, he never hesitated to give his support to all such measures as he thought beneficial to the people. In 1824 he separated from his political friends to uphold the conversion of the government stocks from 5 to 3 per cents., as "by alleviating the burden weighing upon the government, it was a step toward allaying the charges borne by the nation." At the same time he participated in the establishment of institutions for bettering the condition of the common people, among others of the savings bank of Paris; he opened his purse to old officers in reduced circumstances, relieved merchants on the verge of bankruptcy, and readily assisted even his political opponents. Châteaubriand,

finding himself peculiarly embarrassed when he resigned his embassy at Rome, and having applied in vain to the royalists for assistance, received the aid he wanted from Laffitte. The political importance of the banker was increasing daily; his house became the rendezvous of the most eminent members of the opposition, either in the legislative chambers or in the public press; he was the friend of Béranger and the protector of Thiers. In 1827, when the national guard of Paris was disbanded, he moved the impeachment of the ministers. He embraced with ardor the cause of Louis Philippe, and pointed him out beforehand as the only man who could save the country in the event of a revolution. On the publication of the famous ordinances of July, 1830, he first tried to bring back Charles X. to a wiser line of policy; but his efforts being fruitless, he moved the organization of a provisional government, and when the king at last offered to repeal his obnoxious decree, it was he who uttered the sentence: "It is too late!" He now issued a proclamation in behalf of the duke of Orleans, proposed his appointment as lieutenant-general of the kingdom, and brought about a reconciliation between him and Lafayette, thus preventing the latter from proclaiming the republic; and finally he had the duke chosen king of the French by 221 deputies. He was appointed minister of state, and, assuming the ministry of finance, was intrusted with the premiership, Nov. 3, 1830. He had now reached the climax of his fortune, and his future career was unlucky. His sentiments were too liberal to suit the king, and he accordingly resigned in the following March. His banking business had suffered from his absence and the commercial difficulties consequent upon the revolution; the king had felt himself obliged to help his minister by purchasing the forest of Breteuil from him at the price of 6,000,000 francs, and authorizing the bank to lend him 13,000,000; but these transactions becoming known through the indiscretion of the king, Laffitte's credit was lost, and his exertions to prevent the fall of his firm were unavailing. He sold all his property, including his house in Paris, which however was restored to him by a national subscription, and established a new banking house under the appellation of *banque sociale*, of which he was the manager; but his anticipations of success were not realized. He reentered also the political arena, was elected in 1837 by one of the districts of Paris, reelected in 1839 and 1842 by the city of Rouen, and at the opening of the session of 1844 presided over the chamber as its oldest member. To the last his democratic feelings were shown in his words and actions. His only daughter had married the eldest son of the illustrious Marshal Ney, the prince of Moskva; and his granddaughter, once inquiring from him the reason why, being herself a princess, her maternal grandfather was not a prince, he answered: "I am a prince, the prince of the plane; my father was a carpenter!" He died of a pulmonary disease, and more than 20,000 persons

attended his funeral. Beside some financial and political essays which have been printed, he left MS. *mémoires* which are still unpublished. *Les souvenirs de M. Lafitte racontés par lui-même*, written by Ch. Marchal, deserve little credit. There is an elegant biographical sketch of him, by Loménie, in the *Contemporains illustres*.

LAFITAU, JOSEPH FRANÇOIS, a French missionary and writer, born in Bordeaux in 1670, died there in 1740. He belonged to the society of Jesus, and was for some years attached to their missions in Canada. On his return to France, he published: *Mémoire concernant la précieuse plante ging-sang de Tartarie* (Paris, 1718), the plant here noticed, which was highly valued by the Chinese, having been found by Lafitau in the Canadian forests; *Mœurs des sauvages Américains comparées aux mœurs des premiers temps* (2 vols. 4to., 1728); *Histoire des découvertes et des conquêtes des Portugais dans le nouveau monde* (2 vols. 4to., 1738). The second is his best and most interesting work.

LAFITE. See BORDEAUX WINE.

LAFITTE, JEAN, a corsair, privateer, or smuggler of Louisiana and the gulf of Mexico, born in France, either at St. Malo, Marseilles, or Bordeaux, about 1780, died, according to some accounts, at sea in 1817, according to others, at Silan, Yucatan, in 1826. There is a singular uncertainty with regard to the events of his career. It has been stated that he never was at sea but twice—once when he came to America, and again in the voyage on which he was drowned; and that he fitted out privateers to cruise against Spanish commerce under the flag of Carthage. Other authorities assert that he began life as mate of a French East Indiaman, but, quarrelling with the captain, left his ship at Mauritius and entered upon a course of daring and successful piracy in the Indian ocean, varied by occasional ventures in the slave trade. After several years spent in these pursuits, he returned to France, disposed of his prizes, sailed for the West Indies, and took out a commission as privateer from the newly organized government of Carthage, continuing his depredations, not only upon Spanish, but upon British commerce. Another account represents him as having begun his career as lieutenant of a French privateer, which was captured by a British man-of-war and taken into an English port, where the officers and crew of the privateer were thrown into prison. Here Lafitte was confined for several years under circumstances of peculiar hardship, after all his comrades had obtained their release. The resentment toward Great Britain engendered by this real or supposed severity is stated to have been the motive that inspired his subsequent career. Unable to gratify this resentment in the service of his native country, on account of the suspension of hostilities at the time of his release, he found means of doing so under cover of a privateer's commission (against Spain) obtained from the Carthaginian government. According to this account—which bears some

indications of authenticity in its general features—the only acts of Lafitte that could properly be designated as piratical, were committed against British vessels. He is said to have gone to New Orleans in 1807; and whatever may have been the facts with regard to his early history, there is no doubt that about 1813–'14 he was at the head of an organized and formidable band of desperadoes, whose head-quarters were on the island of Grande Terre, in Barataria bay, some 80 or 40 miles west of the mouth of the Mississippi. Acting ostensibly under the flag of the republic of Carthage (or New Granada), it is generally admitted that the operations of these adventurers were not restricted within the limits to which that commission would have confined them. The bay of Barataria afforded a secure retreat for their fleet of small vessels; and their goods were smuggled into New Orleans by being conveyed in boats through an intricate labyrinth of lakes, bayous, and swamps, to a point near the Mississippi river a little above the city. After various ineffectual presentments and prosecutions before the civil tribunals, an expedition was despatched against the Baratarians, in 1814, under the command of Commodore Patterson. The settlement on Grande Terre was captured, with all the vessels that happened to be in port at the time; but Lafitte and his comrades made their escape among the swamps and bayous of the interior, from which they returned to the same rendezvous and resumed operations, as soon as Com. Patterson's forces had retired. About the same time, the British, then maturing their plans for a descent upon the southern coast of the United States, made overtures to Lafitte for the purpose of securing his cooperation in that enterprise. A brig of war was despatched to Barataria, her commander bearing a letter from Commodore Percy, commanding the British naval forces in the gulf, and one from Col. Nichols, then in command of the land forces on the coast of Florida, offering Lafitte \$30,000 and a commission in the British navy, on condition of obtaining his services in conducting the contemplated expedition to New Orleans and in distributing a certain proclamation to the inhabitants of Louisiana. Lafitte dissembled with the British officer (Capt. Lockyer, of the *Sophia*) who was the bearer of these tempting proposals, and asked for time to consider them. Meantime he immediately wrote to Gov. Claiborne of Louisiana, enclosing the documents that had been handed him by Capt. Lockyer, informing the governor of the impending invasion, pointing out the importance of the position that he occupied, and offering his services in defence of Louisiana, on the sole condition of pardon to himself and followers for the offences with which they stood charged. This amnesty would, of course, include in its provisions a brother of Jean Lafitte, who was then in prison in New Orleans under an indictment for piracy. After some hesitation on the part of the American authorities, Lafitte's offer was accepted.

In connection with an officer of the army he was employed in fortifying the passes of Baratania bay, and rendered efficient service, in command of a party of his followers, in the battle of Jan. 8, 1815. The subsequent career of Lafitte is involved in as much obscurity as his earlier life. A proclamation of President Madison confirmed the amnesty which had been granted by Gov. Claiborne to all the Baratarians who had enlisted in the American service, though it does not appear that their chief ever received any further reward from the government. We have at this time (1860) respectable living authority for believing that, after the war, he was engaged for a time as commander of a packet plying between Philadelphia and New Orleans. However this may be, it is generally understood that he soon returned to his old pursuits, taking a privateer's commission, either, as formerly, from the government of New Granada, or else from that of Mexico; and that, while thus engaged, he formed a settlement on the site of the present city of Galveston, which was broken up in 1821 by a naval force under the orders of Lieut. (now Commodore) Kearney. It is possible, however, that his brother Pierre, who commanded one of his vessels, has been confounded with him. His death is attributed by different authorities to foundering at sea, to being burned with his vessel after capture by a Spanish man-of-war, and to wounds received in a desperate conflict with a British cruiser. There are yet other versions, while one account states that he returned to France and died among his relatives on the Garonne, and that his widow was still living there a few years ago. In person Lafitte is represented as having been well formed and handsome, about 6 feet 2 inches in height, with large hazel eyes and black hair. His manners were polished and easy, though retiring; his address was winning and affable; and his influence over his followers almost absolute. There is every reason for believing that he was of a respectable family, and that his early opportunities for education had been good.—See "De Bow's Review," vols. xi., xii., xiii., xix., and xxiii.; Marbois' "Louisiana;" Latour's "War in Louisiana;" Walker's "Jackson and New Orleans;" Yoakum's "History of Texas;" and Parton's "Life of Jackson."

LA FONTAINE, JEAN DE, a French fabulist, born at Château-Thierry, July 8, 1621, died in Paris in 1695. He was the son of a magistrate, and having received an irregular education, partly at home, partly at the college of Rheims, he entered the seminary of the Oratorians with the design of becoming a priest; but at the end of 18 months he gave up this project, returned home, and led an idle and dissipated life, which gave little promise of his future celebrity. He showed however considerable poetical talent, and this was fully awakened on his hearing Malherbe's ode upon the attempt at assassination against Henry IV. recited by an officer who was garrisoned at Château-Thierry. He began eagerly to read the ancient and modern

poets and prose writers, being especially fond of Marot, Rabelais, and Queen Margaret among the French, Ariosto, Tasso, and Boccaccio among the Italians, Virgil and Terence, Homer and Plato, among the Latins and the Greeks. In order to reclaim him from his loose habits and apparent idleness, his father induced him to marry in 1647, and resigned to him his own office; but Jean was ill fitted to be either a husband or a functionary, and was equally neglectful of his matrimonial and official duties. In 1654 he published at Rheims a translation in verse, or rather an adaptation, of Terence's "Eunuch," which gave no indication of his future powers. He soon repaired to Paris, and was introduced by one of his relatives to Fouquet, the superintendent of finance, the great patron of literature and art at that time, who appointed him his poet, bestowed upon him a yearly income of 1,000 livres, and admitted him to his house. La Fontaine was thus enabled to live at his ease for 7 years, during which he produced only occasional poems of no great merit. On the fall of his protector he wrote in 1661, under the impulse of his devotion and gratitude, his admirable *Élégie aux nymphes de Vaux*, an eloquent but fruitless appeal to the king's magnanimity in behalf of the superintendent. Two years later he renewed his entreaties in his *Ode au roi*, but with no better success. He would now have been at a loss for means of livelihood, had it not been for the generosity of two noble ladies, the duchess of Bouillon, Cardinal Mazarin's youngest niece, who welcomed him at her chateau, and the duchess dowager of Orleans, from whom he received a pension as her gentleman servant; he also received occasional favors from Mme. de Montespan, and from her sister, Mme. de Thiangas; but he was always neglected by the king, who could not overlook his irregular mode of life, the character of some of his writings, and above all his fidelity to Fouquet. In 1665 he brought out the first series of his *Contes*, which presented him as a successful rival of Boccaccio; a second part appeared in 1666, and they were completed in 1671 and 1675. Notwithstanding their somewhat licentious turn, they were eagerly read even by the most respectable ladies, the standard of morality being then far different from what it now is. Meanwhile he had already published part of the work upon which his fame especially rests; the first 6 books of his *Fables* had appeared in 1668 with a dedication to the dauphin, the son of Louis XIV. and pupil of Bossuet. The following 5 books were published in 1678 and 1679, with a dedicatory epistle to Mme. de Montespan; the 12th and last, written under encouragement from the young duke of Burgundy, grandson of the king, through his preceptor Fénelon, was printed 15 years later, when the poet had reached the age of 78. His life had undergone several changes during that period of increasing fame; the death of the duchess of Orleans and the exile of the duchess of Bouillon left him unprovided for, but he received the

most generous hospitality from Mme. de la Sablière, a gifted lady, celebrated for her literary taste, who for 20 years secured him all the comforts of a home. When she died, he was fortunate enough to find at M. d'Hervart's another home, where he was cared for with equal kindness, and where he died. During the last two years of his life the religious sentiments of his early youth revived; he performed severe penances for such of his works as strict morality could not approve of, and it may be said that his end was the sage's death as depicted by himself: *Rien ne trouble sa fin; c'est le soir d'un beau jour*. He had been elected to the French academy in 1683, but was only admitted in 1684 in conjunction with Boileau the satirist. The duchess of Bouillon styled him *mon fablier*, his friends *le bon homme*, and posterity most justly proclaims him *l'inimitable*. His character presented a strange mixture of childish simplicity and finesse, which is perceptible in his poems. His freedom from all restraint and his dreamy disposition have given birth to innumerable anecdotes of his absence of mind. Beside the works mentioned above, he left *Psyché*, a mythological novel, and *Adonis*, a charming narrative poem, both of which were published in 1669 under the patronage of the duchess of Bouillon; *Philemon et Baucis* and *Les filles de Minée*, which, although intended as mere imitations of Ovid, are stamped with true originality; 4 or 5 light comedies, and two operas. The best edition of La Fontaine's complete works is that by Walckenaer (6 vols. 8vo., Paris, 1822-'7); next to it may be placed the large 8vo. volume in Didot's *Collection des classiques Français*. His select works, his fables in particular, are constantly reprinted in every form; we must content ourselves with mentioning the editions of Charles Nodier (Paris, 1818), Walckenaer (1827), Crapelet (1830), and Louandre (1852). There is an excellent *Histoire de la vie et des ouvrages de La Fontaine* by Walckenaer (3d ed., Paris, 1824). Among the English translations of La Fontaine are: the "Fables and Tales" (8vo., London, 1734); "Tales and Novels in Verse," by several hands, edited by Humphreys (2 vols. 8vo., London, 1735); "Loves of Cupid and Psyche," in verse and prose, by Lockman (8vo., London, 1744); "Fables" in verse, by Robert Thompson (4 vols. 8vo., Paris, 1806); "Fables" in verse (8vo., London, 1820); and "Fables," by Elizur Wright (2 vols. 8vo., London, 1843; 1 vol. 8vo., Boston, 1846). A new French illustrated edition of his works appeared in 1858.

LA FOURCHE INTERIOR, a S. E. parish of La., bordering on Barataria bay and intersected by Bayou La Fourche; area, 1,100 sq. m.; pop. in 1865, 12,102, of whom 5,569 were slaves. The surface is level, and the soil, except where too marshy for cultivation, is very fertile. The productions in 1855 were 319,980 bushels of Indian corn, 2,211 bbls. of rice, 27,918 of molasses, and 19,013 hhds. of sugar. Capital, Thibodeaux.

LA FUENTE, ALCANTARA MIGUEL, a Spanish historian, born in Archidona, Malaga, July 10, 1817, died in Havana in Aug. 1850. He studied law, devoted himself to historical investigations, became secretary of the cortes, and received the appointment of attorney-general (*fiscal*) in the island of Cuba. He had barely arrived in Havana before he was attacked by the local fever and died. His vast researches into the history of his country, and his appreciation of its different political phases as well as its romance, are exhibited in his "History of Granada" (4 vols., Granada, 1843-'8; 2 vols., Paris, 1851). He also wrote a work on hunting, and one on the characters and revolutions of the different races in Spain at different periods, and especially of the Moors during the middle ages.

LAGO MAGGIORE (anc. *Lacus Verbanus*), a lake of N. Italy and Switzerland, enclosed by Lombardy, Piedmont, and the canton of Ticino; length 40 m.; average breadth 2 m., greatest breadth 8 m.; greatest depth 2,625 feet; elevation of surface above the level of the sea, about 688 feet. The principal affluents are the Toce or Toccia, Maggia, and Tresa; its great outlet is the Ticino, which issues from its S. extremity at the town of Sesto. Near the entrance of the gulf of Tosa, on the W. side, lie the Borromeo islands, remarkable for their picturesque beauty. The Swiss portion of this lake is termed Lago Locarno. The surrounding mountains are covered with forests, the timber of which gives rise to a considerable traffic, and employs numerous vessels on its waters. Steamers also ply regularly between Magadino and Sesto. This lake abounds in fish, particularly trout, and some are occasionally caught which are said to weigh as much as 50 lbs. There are valuable quarries of fine white marble on its shores.

LAGOS. I. A seaport town of Portugal, in the province of Algarve, 110 m. S. from Lisbon, on the N. W. shore of Lagos bay; pop. about 7,000. It is well built, and contains 8 churches, 3 convents, a civil and military hospital, an alms house, a grammar school, and a handsome aqueduct. Its inhabitants are chiefly engaged in the tunny and sardine fishery. The harbor, which is only navigable for small vessels, is defended by forts. In the bay of Lagos, Aug. 18, 1759, a British fleet under Boscawen obtained a decisive victory over a French squadron under De la Clue. II. A town of Africa on the coast of Upper Guinea, situated at the N. end of a low island, 5 m. long by 1½ m. broad, which lies at the entrance to a lagoon of the bight of Benin, near the mouth of the river Ogoon, on which, 90 m. from the coast, is the city of Abbeokoota; pop. estimated at 5,000. Lagos is nominally subject to the king of Dahomey, but tributary to Benin. A number of English and other traders reside here, and the town contains many good houses built in the English style. It was formerly a notorious seat of the slave traffic, in attempting to negotiate for the abolition of which the British consul, Mr. Beecroft, was fired upon in Nov. 1851. The town was thereupon

attacked by the British steamer *Bloodhound*, which was compelled to retire with the loss of 2 officers killed and 10 men wounded. A second engagement on Dec. 24 and 26 resulted in the reduction of the town, the capture of 57 guns, and the conclusion of a treaty by which the ruler guaranteed freedom of commerce, the protection of Christianity, and the abolition of the slave trade and of human sacrifices.

LAGRANGE, a N. E. co. of Ind., bordering on Mich., and drained by Pigeon river; area, 384 sq. m.; pop. in 1850, 8,887. It has a nearly level surface, much of which is occupied by timber. The soil is fertile. The productions in 1850 were 321,211 bushels of Indian corn, 127,905 of wheat, 73,816 of oats, and 7,208 tons of hay. There were 5 churches, 1 newspaper office, and 2,234 pupils attending public schools. Capital, Lagrange.

LAGRANGE, JOSEPH LOUIS, a French geometrician, born in Turin, Jan. 25, 1736, died in Paris, April 10, 1813. His parents were of French extraction on both sides. The reading of the ancient geometricians turned his attention to scientific pursuits; and a paper by Halley in the "Philosophical Transactions," "On the Superiority of Modern Algebra in determining the Foci of Object Glasses," led him to a close study of the analytical methods. His first publication was a letter to C. J. Fagnano, June 23, 1754, which contained a series of fluxions and fluents of different orders, somewhat resembling the binomial theorem of Newton. In 1755, although but 19 years of age, he was made professor of geometry in the royal school of artillery at Turin, where many of his pupils were his seniors. In conjunction with several of them, he established a scientific society, whose memoirs, owing particularly to his contributions, afterward acquired a high reputation, his essays on the propagation of sound being especially noticed. He meanwhile corresponded with Euler, to whom he communicated his first ideas of the solution of the isoperimetrical problems. In 1764 he won a prize from the French academy of sciences for a memoir on the libration of the moon, in which he demonstrated the wide extent of the principles of virtual velocities, and their connection with the other principles of mechanics. Soon afterward he went to Paris, where he became personally acquainted with Clairaut, D'Alembert, Condorcet, and others. In 1766 a second prize, on the subject of the satellites of Jupiter, was awarded him by the French academy; and he was invited to Berlin to become a mathematical director of the Prussian academy, which office Euler, called to St. Petersburg by the empress Catharine, had left vacant. He accepted the offer, repaired to Berlin, where he was treated with great distinction by Frederic the Great, and spent there 20 years, during which time he prepared his great work, the *Mécanique analytique*. On the death of Frederic, yielding to a secret desire and to the entreaties of Mirabeau, notwithstanding liberal offers from the courts of

Naples, Sardinia, and Tuscany, he went to France, where he was welcomed by Queen Marie Antoinette, received as a veteran pensioner of the academy an income equal to that which he had enjoyed at Berlin, and was provided with apartments in the Louvre. His *Mécanique analytique*, which had been printed under the supervision of his friend the abbé Marie and the geometrician Legendre, appeared a few months after his arrival in Paris (1787), and commanded general admiration. Being now in the zenith of his fame, he was seized with fits of morbid melancholy, during which he lost all taste for his wonted pursuits, and evinced the utmost indifference even to the work which had secured him immortal reputation. His spirits revived about the beginning of the revolution, and the treatment he received at the hands of the revolutionists was perhaps still more flattering than that which he had obtained from kings and princes. His pension was unanimously confirmed by the national assembly, and he was appointed member of a committee for examining useful inventions, and director of the mint, in conjunction with Monge and Berthollet. The latter post he resigned at the end of 6 months. He took great interest in the establishment of the new system of weights and measures. In 1793, when a decree of the convention ordered all persons not born in France to leave the country, an exception was made in favor of Lagrange. On the establishment of the normal school and of the polytechnic school, he was appointed professor in those institutions. The lectures which he delivered in 1795 were published in the *Journal de l'école polytechnique*. For his pupils he wrote his *Théorie des fonctions analytiques* (Paris, 4to., 1797 and 1813), and his *Leçons sur le calcul des fonctions* (last ed. 1806); but few of the ideas contained in these books have prevailed, as they were far from being as perfect as the method of fluxions and its kindred doctrines. On the foundation of the institute and the board of longitude, he was at once placed among the members of the former, and at the head of the latter. He was so highly appreciated in France, that, on the entrance of the French army into Turin, the generals and many high functionaries, headed by the civil commissary, went in procession, by order of the directory, to congratulate his father, then 90 years of age, on the merits of a son who "had done honor to mankind by the brilliancy of his genius, and whom Piedmont was proud to have produced, and France to possess as a citizen." Napoleon made Lagrange a senator, a count of the empire, a grand officer of the legion of honor, and a knight grand cross of the order of reunion; he showed him friendship on every occasion, and styled him the "high pyramid of mathematical sciences." His last years were devoted to preparing new editions of his *Mécanique analytique* (2 vols. 4to., 1811-'15, the publication of the 2d volume of which was completed by Prony, Lacroix, and Binet), and of his *Théorie des fonctions analytiques* (4to., 1813).

His remains were solemnly buried in the Pantheon, and the last honors were paid to his memory by Lacépède and Laplace in a funeral oration, while the emperor provided liberally for his widow and his brother.

LA GUAYRA, the principal seaport of Venezuela, on the Caribbean sea, in lat. $10^{\circ} 86' 42''$ N., long. $66^{\circ} 56' 80''$ W., 10 m. from Caracas; pop. about 8,000. Its situation resembles that of Santa Cruz in Teneriffe. The chain of mountains which separates the town from the high valley of Caracas descends almost directly into the sea, and the town is surrounded by a wall of huge masses of rock. It contains only two streets, running parallel with each other E. and W. Commanded by the battery of Cerro Colorado, it is strongly fortified along the sea shore. The town has a gloomy and desolate aspect, and is one of the hottest places on earth. The neighboring coast is extremely unhealthy. The town has frequently suffered from earthquakes, and was almost entirely destroyed by that of 1812, when several thousand persons perished. La Guayra is rather a roadstead than a port. The anchorage is bad, the tides powerful, and the sea in constant agitation. About half of the entire trade of Venezuela and the whole of that of Caracas is carried on through La Guayra. The principal exports are coffee, cacao, cotton, sugar, indigo, and hides; and the imports are chiefly manufactured goods, flour, &c. The annual shipping comprises about 50,000 tons, and the aggregate value of imports and exports is \$6,000,000. In the 8 months ending Sept. 30, 1858, 18 vessels arrived there from the United States, with cargoes valued at over \$200,000, and 9 cleared with merchandise to the amount of nearly \$100,000.—The yellow fever which prevailed so severely at the beginning of this century at La Guayra was attributed by some authorities to the alteration caused in the atmosphere by the overflowings of the small river of the same name. Humboldt, however, on examining the bed of its torrent, found nothing that could have had any effect in deteriorating the air.

LA GUÉRONNIÈRE, LOUIS ÉTIENNE ARTHUR, vicomte de, a French publicist, born in 1816. The offspring of a noble family of Poitiers, known for their devotion to the Bourbons, he early gave evidence of royalist opinions, and about 1835 appeared as a writer in *L'avenir national* of Limoges. A little later he became acquainted with Lamartine, who encouraged his efforts, and on the revolution of 1848 offered him an appointment, which he declined. When Lamartine left the ministry of foreign affairs, La Guéronnière joined him in the publication of *Le bien public*, a newspaper which ceased toward the end of 1848. He then became a contributor to Émile de Girardin's *Press*, and his connection with this journal lasted about 15 months. In 1850 he edited, under the supervision of Lamartine, the new journal, *Le pays*. His leaning toward the Bonapartist party, which was plainly shown in a biographical sketch of Louis Napoleon, published in that paper with-

out his principal's approbation, caused a separation between them; and La Guéronnière became, after the *coup d'état* of Dec. 2, 1851, a staunch supporter of the new emperor. He was elected to the legislative body by the department of Cantal, and assumed at the same time the direction of both the *Constitutionnel* and the *Pays*. In 1853 he was appointed councillor of state, and subsequently commander of the legion of honor and presiding officer of the council general of Haute-Vienne. He is now superintendent of the press, and the occasional pamphlets and articles in the *Moniteur* which appear under his name are supposed to represent the imperial views and to possess a semi-official character. Such are *L'empereur Napoléon III. et l'Angleterre* (1858), *L'empereur Napoléon III. et l'Italie* (Jan. 1859), and *Le pape et le congrès*, toward the close of the same year. His flexible and somewhat pompous style is well adapted to such performances. He has also published some political sketches, *Études et portraits contemporains* (Paris, 1851 and 1856), including Napoleon III., Nicholas I., King Leopold of Belgium, the prince de Joinville, Thiers, De Morny, and Gen. Cavaignac. He is an occasional contributor to the *Revue contemporaine*, for which he wrote *Les souverains écrivains*, where Napoleon III. holds a conspicuous place between Henry IV. and Louis XIV.

LA HARPE, FRÉDÉRIC CÉSAR, a Swiss patriot, born in Rolle in 1754, died in Lausanne, March 30, 1838. He was educated in democratic opinions; began the practice of law, but disliking the profession was on the eve of going to the United States to enlist in the continental army, when he was offered and accepted a situation as preceptor of a young Russian nobleman, whom he accompanied to Italy. His success in this vocation attracted the attention of the empress Catharine, who called him to St. Petersburg and confided to his care her two grandsons, Alexander and Constantine. The republican preceptor subjected the young princes to severe training, and taught them principles and ideas which seldom find their way into courts. On the breaking out of the French revolution, he actively participated, by a petition to the government at Bern and letters addressed to the Swiss people, in the plans for reorganizing the Helvetic confederation so as to make it a single and undivided republic. This becoming known to the empress, she discharged him, without the usual pension and dignities. Leaving Russia in 1793, he repaired to Geneva, and then to Paris, where he endeavored to interest the French government in the cause of the Swiss democrats against the aristocracy of Bern, and finally succeeded in securing the protection of the directory, thus accomplishing the revolution of 1798 by which Switzerland was to become a democratic republic. He became the controlling member of the Helvetic executive directory, and wielded with energy, and even violence, the power he had acquired by force; but his hopes were soon

dispelled by the change in French policy after the 18th Brumaire. The Helvetic directory was dissolved, and La Harpe, being suspected of conspiring against the new order of things, was arrested; but he made his escape, repaired to Paris, and was told by Bonaparte that "he had better leave Switzerland alone." He then retired to private life at Plessis-Piquet, near Paris, devoting himself to agricultural pursuits, until the fall of the empire revived his hopes of his country's emancipation. In 1814, having received a visit from the emperor Alexander, he resumed his influence over the mind of his former pupil; and if he could not prevail upon him to favor his democratic plans in regard to Switzerland, he at least contributed to the preservation of that confederation, and to the liberation of his own canton of Vaud from the rule of Bern. After the treaty of Vienna he resided at Lausanne. During the most active periods of his life he published a number of pamphlets in which he expounded his plans for the reorganization of his country, and denounced the tyranny and misdeeds of its old governments.

LA HARPE, JEAN FRANÇOIS DE, a French critic, born in Paris, Nov. 20, 1739, died there, Feb. 11, 1803. He was left an orphan in his 10th year, was brought up by charity, and was admitted as a free scholar to the Harcourt college, where he gave early evidence of literary talent. On leaving this institution, he wrote with several of his comrades some satirical verses on certain members of the college, for which he was imprisoned by the police for several months. This severe punishment of a trifling offence, together with his narrow circumstances, added to his naturally bitter disposition. His first attempts at poetry were heroic epistles, a kind of poem then much in vogue. In 1763 he produced his tragedy of *Warwick*, which was successful. Three other plays of the same kind, *Timoléon*, *Pharamond*, and *Gustave Wasa*, failed; and, disappointed in his anticipations of fortune, he remained for nearly two years the guest of Voltaire. On his return to Paris in 1768, he became a contributor to the *Mercur de France*, and made himself noted for the bitterness of his criticism. At the same time he competed successfully for the academical prizes, 11 of which he won within 10 years, 8 being at the French academy. These successes procured in 1776 his election to that learned society. The new tragedies he produced about the same time were mercilessly criticized, and, with the exception of *Philoctète* (1780) and *Coriolan* (1784), were coldly received by the public. He was meanwhile the correspondent of the grand duke Paul of Russia, the son of Catharine the Great, and undertook several publications, especially an *Abrégé de l'histoire générale des voyages*, from which he realized some profit. He adopted the revolutionary principles, brought on the stage in 1791 *Mélanie, ou la religieuse*, an indirect attack on the clergy, which was warmly received, showed himself an ardent Jacobin, and went so far as to become an occasional flatterer of

Robespierre. He was nevertheless incarcerated during the reign of terror, and this made such an impression upon his mind that his opinions underwent a complete change; he became a devout Christian and an uncompromising enemy of all that was called philosophy. On his liberation after the 9th Thermidor, he resumed with great success a course of public lectures which he had begun a few years before. These lectures, collected under the title of *Lycée, ou cours de littérature ancienne et moderne* (12 vols. 8vo., 1799-1805), are still regarded as a standard of literary criticism. His *Correspondance littéraire* with the grand duke Paul was printed in 1801 (4 vols. 8vo.); and the severity and selfishness with which the judgments it contains are stamped, rekindled the hatred against him, and embittered the last years of his life.

LA HIRE, PHILIPPE DE, a French mathematician, born in Paris, March 18, 1640, died there, April 21, 1718. At first he followed the profession of painting and sculpture, which was that of his father, but while in Italy in 1660 he turned his attention to mathematics. In 1679 he and Picard were appointed to make certain surveys along the coast of Gascony; and in 1683 he was employed, in conjunction with Cassini, to complete the measurement of an arc of the meridian, which had been commenced in 1669. His most important scientific work is his *Sectiones Conicæ* (Paris, 1685).

LA HOGUE. See CAPE LA HAGUE.

LAHORE, a city of Hindostan, capital of the Punjab, situated about 1 m. from the E. bank of the Ravee, in lat. 31° 36' N., long. 74° 21' E.; pop. estimated at 95,000. It is walled with brick and defended by a citadel and outworks. There are several fine mosques, including one of red sandstone said to have been built by Aurungzebe. The Hindoos have a number of temples, and in the neighborhood are some handsome tombs, one of the most attractive of which is that of the emperor Jehanghir. The city has narrow streets, tall gloomy houses, small but well furnished bazaars, and a vernacular college supported partly by the British government, and having about 550 pupils. The surrounding country is covered with vast ruins, attesting the magnificence of the ancient city, which was the capital of the Ghaznevide dynasty in the 12th century, and the favorite residence of the descendants of Baber. The famous Runjeet Sing was invested with the rajahship of Lahore by Zeman Shah in 1799, and after his death the territory was seized by the British and consolidated with the rest of the Punjab.

LAIBACH. See LAYBACH.

LAING, ALEXANDER GORDON, a British traveller, born in Edinburgh, Dec. 27, 1794, murdered near Timbuctoo, Africa, in Sept. 1826. He was educated for the profession of his father, who was a schoolmaster, but joined the army, and served in 1811 in Barbados as ensign under his uncle, the future Gen. Gordon. In 1820 he went to Sierra Leone, and became aide-de-camp to the governor, Sir Charles McCarthy. He

took an active part in the efforts made by the English government to stop the slave trade by commercial treaties with the natives, opened negotiations with the king of the Foolaas at Timbo, the capital of Foota Jallon, and contributed much to the knowledge of that country and of the upper course of the Niger. The war with the Ashantees, in which Governor McCarthy lost his life, compelled him to return to Sierra Leone. On coming back to England he was promoted to the rank of major, and placed at the head of an African exploring expedition. He sailed for Tripoli in 1825, and on July 26, 1826, joined a caravan for Timbuctoo, which he reached Aug. 18; but while on a tour to Sansanding he fell into the hands of a fanatical Arab sheik, who on his refusal to embrace Mohammedanism strangled him. He published an account of his first journey under the title of "Travels through the Timannee, Kooranko, and Soolima Countries, to the Sources of the Rokelle and Niger, in the Year 1822" (8vo., London, 1825).

LAING, MALCOLM, a Scottish historian, born at Strynzia, in the Orkneys, in 1762, died there in 1818. He was educated at the university of Edinburgh, studied law, and was called to the bar in 1784; but, not succeeding in his profession, he turned his attention to literature. His first work was a continuation of Dr. Henry's "History of Great Britain," which was followed in 1800 by a "History of Scotland from the Union of the Crowns to the Union of the Kingdoms." In 1804, a 2d edition of the latter production being called for, he appended to it an essay "On the Participation of Mary, Queen of Scots, in the Murder of Darnley." In 1807 he was returned to parliament as member for the Orkneys, but ill health soon compelled him to withdraw to private life. Beside the works above mentioned, he published an edition of the "History and Life of King James VI." from the original manuscript, which had served as the foundation of the forgeries of Crawford, in his "Memoirs of the Affairs of Scotland."—His brother, SAMUEL LAING, is known as the author of books of travel, and of works on social and political subjects. A new edition of his book on Norway appeared in 1854.

LAING, SAMUEL, a British railway financier, born in Kirkwall, Scotland, about 1810. He was educated at St. John's college, Cambridge, and in 1840 was called to the bar. Shortly afterward he became private secretary to Mr. Labouchere, then president of the board of trade, and was also for several years secretary of the railway department. In 1844 he prepared an important report on "British and Foreign Railways." In 1845 he was actively employed in preparing the reports presented by the railway commission presided over by Lord Dalhousie; and upon the rejection of them by the house of commons he resigned his seat at the board of trade and resumed the practice of his profession. In 1848 he was elected chairman of the Brighton railway company, and in 1852 was returned

to parliament for his native borough. The same year he became chairman of the crystal palace company, and was instrumental in causing the palace to be opened at Sydenham in 1854. He has also participated in the management of important lines of railway in France, Belgium, and Holland, and of the great western railway of Canada. He is known as an able and fluent speaker. In 1857 he was returned to parliament for the borough of Wick, and reelected in 1859.

LAIRESSE, GÉRARD DE, a Flemish painter, born in Liège in 1640, died in Amsterdam in 1711. At the age of 16 he was a successful painter, and received large prices for his pictures; but dissipation kept him in poverty until he removed to Amsterdam, where he rose to fortune and reputation. At the age of 50 he became blind, but he dictated his discourses on the theory and practice of painting, which were published under the title of *Groot schilderboek* (Amsterdam, 1707).

LAÏS, the name of two celebrated courtesans of ancient Greece. I. The elder Laïs lived during the period of the Peloponnesian war, and is generally supposed to have been a native of Corinth. She was one of the most beautiful women of her age, but remarkable for her avarice and caprice. Among her lovers was the philosopher Aristippus, who dedicated two of his works to her. She grew enamored of Eubotas of Cyrene, who promised to take her with him to his native city if he should prove victor in the Olympic games. He succeeded in the contest, and fulfilled his promise by taking thither her portrait. In her old age she became intemperate, and died at Corinth, where a monument was erected to her memory in the grove called the Oranion. II. The younger Laïs was a native of Hyocara in Sicily, and lived in the age of Philip and Alexander the Great. She removed to Athens in her youth, and is said to have been induced by the painter Apelles to adopt the profession of a courtesan. She subsequently became the rival of the famous Athenian hetæra Phryne; but falling in love with a handsome Thessalian youth named Hippolochus, she accompanied him to his native country, where her beauty exciting the jealousy and envy of some of her sex, they allured her into a temple of Aphrodite, and there stoned her to death. She was buried on the banks of the Peneus; the inscription engraven on her monument is given by Athenæus.

LAKE (It. *lacca*), a pigment prepared from infusions of vegetable dyes or of cochineal, by causing the coloring matter to unite and form a precipitate with some earthy or metallic oxide. This is usually alumina, but the oxides of tin and zinc sometimes serve as the basis. A solution of alum is employed to furnish the alumina, and potash is commonly added to it—always if the infusions are acid. If the infusions are made with alkaline liquors, the alum solution may be added alone. A decoction of turmeric yields an orange lake; of cochineal, a brilliant red lake (see CARMINE); of Brazil wood, also a red,

made violet by excess of potash, and brownish by cream of tartar. Madder also gives a red lake. Persian or French berries produce yellow lakes; and green lakes may be obtained from these mixed with blue pigments. The varieties of blue pigments in use render it needless to prepare blue lakes.

LAKE, the name of 4 counties in the United States. I. A N. E. co. of Ohio, bordering on Lake Erie, and drained by Grand and Chagrin rivers; area, 220 sq. m.; pop. in 1850, 14,654. The surface is undulating and the soil a fertile clayey loam, with occasional ridges of sand. Iron ore is found. The productions in 1850 were 336,312 bushels of Indian corn, 51,744 of wheat, 151,178 of oats, 120,104 of potatoes, 25,582 tons of hay, and 142,779 lbs. of wool. There were 9 grist mills, 89 saw mills, 4 iron foundries, 1 newspaper office, 26 churches, and 3,517 pupils attending public schools. The Cleveland and Erie railroad passes through the county. Capital, Painesville. II. A N. W. co. of Ind., bordering on Lake Michigan and Illinois, bounded S. by the Kankakee river, and drained by the Calumick and Deep; area, 468 sq. m.; pop. in 1850, 8,991. The surface is level and diversified by woodlands and prairies, with large marshes near the Kankakee; the soil is generally fertile. The productions in 1850 were 188,040 bushels of Indian corn, 46,889 of wheat, 92,424 of oats, 8,949 tons of hay, and 11,526 lbs. of wool. There were 3 grist mills, 4 saw mills, 2 newspaper offices, 5 churches, and 375 pupils attending public schools. The Michigan southern and northern Indiana and the Michigan central railroads pass through the county. Capital, Crown Point. III. A N. E. co. of Ill., bordering on Lake Michigan and Wisconsin, and drained by Fox and Des Plaines rivers; area, 425 sq. m.; pop. in 1855, 17,630. The surface is chiefly an undulating prairie diversified by tracts of timber and many small lakes. The soil is a rich, deep, black loam. The productions in 1850 were 320,071 bushels of wheat, 168,915 of Indian corn, 250,733 of oats, 35,506 tons of hay, 421,200 lbs. of butter, and 45,895 of wool. There were 4 grist mills, 8 saw mills, 1 newspaper office, 8 churches, and 2,391 pupils attending public schools. Capital, Waukegan. IV. A W. co. of the lower peninsula of Michigan, drained by the Notipeskago river and affluents of the Manistee; area about 700 sq. m. It has been formed since 1850.

LAKE OF THE WOODS (Fr. *Lac des Bois*), a body of water in the Hudson's Bay territory, British North America, on the frontier of Minnesota, about lat. 49° N., long. 95° W. It is 300 m. in circumference, and has an irregular outline indented by bays. A vast number of small islands dot its surface. The Winnipeg river flows from it on the N., and it receives Rainy river on the S. Wild rice grows plentifully along its shores.

LALANDE, JOSEPH JÉRÔME LE FRANÇAIS DE, a French astronomer, born in Bourg, Franche-Comté, July 11, 1732, died in Paris, April 4,

1807. His family name was Le Français, but he assumed that of Lalande at the outset of his scientific career. He was educated at the college of the Jesuits at Lyons, studied law in Paris, and was admitted to the bar, but gave up the legal profession to attend the lectures of De Lisle and Le Monnier. The latter, in 1751, procured him a scientific mission to Berlin, where he was to ascertain, through astronomical observations, the distance between the earth and the moon, while La Caille was making similar observations at the Cape of Good Hope. On his return in 1758, he was elected to the academy of sciences, assisted Clairaut in his researches on comets, especially that of Halley, and became in 1760 the editor of the *Connaissance des temps*, which he conducted until 1775, and subsequently from 1794 till his death. In 1762 he succeeded De Lisle in the chair of astronomy at the college of France, and during 46 years delivered lectures on that science. He reached the height of his fame when he published a map illustrating the two transits of Venus which were to take place in 1761 and 1769, and showing the exact time of those transits for all countries on the globe. About the same time he announced to the world the results of the calculations through which the distance between the sun and the earth had been definitely ascertained. He gave much attention to navigation, and delivered lectures and published works on this subject, which are highly valued. But the popularity acquired by his scientific labors did not satisfy his thirst for fame; and in order to keep public curiosity constantly alive, he stationed himself on the Pont-Neuf to give astronomical explanations to passers by; announced that he would travel in a balloon from Paris to Gotha, where a scientific congress was to be held; took care to have it reported that he ate spiders, caterpillars, worms, and other insects; and professed the boldest atheism.

LALLEMAND, CLAUDE FRANÇOIS, a French physician, born in Metz, Jan. 26, 1790, died in Marseilles, Aug. 25, 1854. After serving as assistant surgeon in the armies of the empire, he studied in Paris at the Hôtel Dieu under Dupuytren, and in 1819 was appointed professor of clinical surgery at Montpellier, in which office he remained till 1845, with the exception of 3 years during which he was suspended for his liberal political expressions. His most important work, the *Recherches anatomico-pathologiques sur l'encéphale et ses dépendances* (Paris, 1820-'36), remarkable for its literary merits as well as its sagacious philosophical syntheses, established his reputation, and was translated into many languages. Elected in 1845 to the academy of sciences, he removed to Paris, and was consulted by patients from every part of Europe. Ibrahim Pasha visited him in Paris, and was formally received by Louis Philippe. His health failed again after his return to Egypt, and Lallemand went to that country in 1848 for his relief, but arrived too late. He was, how-

ever, received with distinction by Mehemet Ali. He is the author of valuable works, and bequeathed 50,000 francs to the institute.

LALLY, THOMAS ARTHUR, count, baron of Tullendally or Tollendal in Ireland, a French soldier, born in Romans, Dauphiné, in Jan. 1702, beheaded in Paris, May 9, 1766. He was the son of Sir Gerard Lally, an Irish loyalist, who had accompanied James II. in his exile to France. He was educated to the profession of arms, and when scarcely 12 years old performed his first military service at the siege of Barcelona. For his gallantry at the siege of Kehl in 1733 and Philippsburg in 1734, where he saved his father's life, he was promoted to the rank of major. In 1737 he visited England, Ireland, and Scotland, with a view to promote the interests of the pretender; and in 1738 he was sent on a secret mission to St. Petersburg. In 1745 he distinguished himself at the battle of Fontenoy, where he led the Irish brigade whose gallantry secured victory to the French. The king promoted him to the rank of brigadier-general on the field. The same year, at the head of a body of volunteers, he landed in Scotland, joined the young pretender Charles Edward, served as his aide-de-camp at the battle of Falkirk, went twice to London, where a price had been set upon his head, barely escaped with his life, fell into the hands of smugglers, and owed his safety to his self-possession and daring. In 1755, being consulted by the French ministry upon the best mode of impairing the power of England, he strongly urged an attack upon her East Indian possessions. He was offered the command of an expedition to carry out his own plan, received the appointment of governor-general of the French establishments in the East, and sailed for his destination, May 2, 1757. But the means which had been placed at his disposal were wholly inadequate. He landed at Pondicherry, April 28, 1758, and found that the agents of the French East India company were secretly against him. Nevertheless, the Coromandel coast was conquered in a few weeks. He overcame all the obstacles thrown in his way, laid siege to Madras in the month of December, carried the Black Town, and had some prospect of success; but being unsupported by D'Aché, the commander of the French fleet, and having no money to pay his mutinous soldiers, he was finally obliged to retire on the arrival of an English fleet. Soon after he found himself besieged in Pondicherry by an enemy 10 times his superior in numbers. He held out for 10 months; but deserted by his fleet, betrayed by the agents of the French company, having exhausted his resources, and the garrison being reduced to 700 men, he was finally compelled to surrender at discretion, Jan. 14, 1761, to Gen. Coote, who had 22,000 troops under his command, and was supported by 14 ships. He was taken prisoner to London; but having heard that he was charged by his personal enemies with various crimes, he obtained his release on parole, re-

paired to Paris, and, conscious of his own innocence, voluntarily entered the Bastille, in order to hasten his trial, but was left there for 19 months without examination. Being finally accused as a traitor and a defaulter by the very men who had been the cause of his ruin, a mock trial took place; witnesses of the worst character, some of whom were his own servants, were admitted to testify against him; he was refused counsel, and was not even allowed to present his defence; and at last, after a protracted secret deliberation, he was sentenced to death and executed. Several years afterward, the whole of these proceedings were revised; and the sentence was finally reversed in 1778.

LALLY-TOLLENDAL, TROPHIME GÉRARD, marquis de, a French politician, son of the preceding, born in Paris, March 5, 1751, died March 11, 1830. Although of legitimate birth, he was brought up, under the name of Trophime, in ignorance of his parentage until the eve of his father's execution. He first made himself known by his untiring efforts, during 12 years, to procure the reversal of his father's sentence, in which he secured the assistance of Voltaire, who wrote in his behalf. In 1789 he was one of the deputies of the nobles to the states-general; he supported moderate reforms, and favored the establishment of a constitutional monarchy with two chambers and an absolute power of veto vested in the king; but on the return of Louis XVI. to Paris, Oct. 6, he was so alarmed at the course of the revolutionists that he retired with Mounier to Coppet in Switzerland. There, under the title of *Quintus Capitolinus aux Romains*, he published in 1790 a pamphlet censuring the proceedings of the constituent assembly. He returned to Paris in 1792 to oppose the Jacobins, and was imprisoned, but escaped a few days previous to the September massacre and fled to England. In 1798 he applied to the convention to be appointed one of the counsellors of King Louis XVI., but his request was not answered. He returned to France after the 18th Brumaire, and lived in retirement until the return of the Bourbons, when he was made a peer.

LAMA. See LLAMA.

LAMAISM (Tungusic, *Lam*, ocean; Thibetan, *Lama*, road, a priest), the prevailing religion of Thibet and some other parts of Asia. It is an offshoot of Buddhism, with some tenets of Sivaism, engrafted on the ancient Thibetan religion, and on Mongolic Shamanism or spirit worship, the last traces of which yet exist in Siberia, as a species of demonolatry, marked by the practice of magic and many cruel customs. The Thibetans call their religion *Saangs r-Gyass-Kyu-tchoss*, or Buddha's law. Many of its features are described in the article BUDDHISM (vol. iv., especially on pp. 68 and 69).—The history of the introduction of Buddhism into the snowy fastnesses of Thibet is imperfectly known. The Thibetan and Chinese annals relate, that the first religious king, who is said to have lived after some other fabulous monarchs, and who is known as Sarong b-Tsan

s-Gam-po, the upright wise prince, after the transfer of his residence from the banks of the Yalung-kiang or eastern branch of the Yang-tse-kiang, and after a war with the Chinese, having married a Chinese and a Nepalese princess, received from their fathers many books and idols of Buddha, and built temples for the keeping of the latter. These were the nucleus of the city of Lassa (*Lha-sa*, god-land), the metropolis of Lamaism. In A. D. 632 he sent his minister Thumi-Sam-bho-ta to study Buddhism in Nepal, and to adapt the Devanagari to the Thibetan language. The king translated the three principal sacred books into Thibetan. On account of this, and on account of the good laws he made, he received the title of *Chakravartin*, or the wheel-turner. To him also is attributed the introduction of the omnipotent mystic formula of the 6 syllables *Aum-ma-ni pad-me hum*, which probably means: "God! treasure in (the) lotus, Amen!" (see *BRAHMA*, vol. iii. p. 617); it is moreover a greeting to Avalokitesvara, the patron saint of Thibet, one of its 8 Bodhisattvas; and also a spiritual and corporeal panacea, and a universal prayer. Another saintly king of the 9th century, the son of a Chinese princess, built a great monastery 8 days' journey S. E. from Lassa, and completed, by the aid of Indian pundits, the translation of the *bKa'djur* (pronounced *Ka-djur*, *versio verbi*), the great canon in 8 sections, containing 1,088 works, in 100 volumes, and treating of discipline, metaphysics, the appearance of Buddhas, religious treasures, the Nirvana (see *BUDDHISM*, vol. iv. p. 66), and of magic formulas. The 3d incarnate king, Khri lDe Serong bTsan, built many cenobies by the aid of holy men from India and Nepal, and founded the Lamaic hierarchy toward the end of the 9th century. He was, however, put to death by strangling, and many discontented Thibetans emigrated. Buddhism was rent by the sects of the Chinese and Indian schools, and was almost uprooted by King gLang-dar-ma, who was therefore called a Khubilghan of Shienus (*incarnatio diaboli*). His two sons divided the Thibetan kingdom into U (Chinese, *Uei*, pure, holy), the eastern portion, with Lassa as its capital, and Tsang or the centre, the south-western portion, having as its metropolis *gShis-Ka-rTse* or Dzigartchi. Further civil broils compelled many to emigrate to Nga-ri, in the north-west, as well as into Kham, the original seats of the Thibetans, on the borders of Szechuan, under Chinese protection. This did not avail much, as China was then weak, and was moreover separated from Thibet by the new state of the Hia or Tangut (Chinese, *Si-fan*), near the Koko-Nor, or Blue Lake. Buddhism was reimported from Kham, and Indians were invited into Nga-ri. Djo-bo-Atisha reorganized it, and his Thibetan disciple Brom-bakshi founded a moral sect, from which issued the great reformer who will be spoken of below. New monasteries were erected in the 11th and 12th centuries, of which the principal were Ra-

sgreng, N. of Lassa; Ssa-skya, S. of Dzigartchi, the seat of the lama primate of that period; Bri-gung, 4 days' journey N. E. from Lassa, the seat of an anti-primate.—The glory of Lamaism dates from the conversion of the Mongols. Their ancient religion was Shamanic, consisting in the belief in *Tegri* (sky, god) and demons, in the souls of ancestors, and the like. Genghis Khan despised all priests, being indifferent to all creeds, as were his sons. But after the division of the Mongol empire into several powerful states, Batu Khan adopted Islamism, Khulaghu favored Christianity, while Kublai Khan (1259-'94), the conqueror of China, and founder of the Yu-en dynasty, became a Buddhist. An admirer of Chinese civilization, and a patron of learned men, he found it useful to acquire power in Thibet, which had been only partly conquered by Mangi Khan, by affording protection to the hereditary lama of Ssa-skya. He divided the country into districts, and subjected them (1298) to this lama, who bore the names of *Ti-szu*, emperor's teacher, *Ta-pao-fa-vang*, great precious law's king, *Gromgon*, protector of beings, and other titles from his contrivance of letters for the Mongolic language. This lama consecrated Kublai as emperor, and wrought many wonders; and on his demanding a higher throne than that of the emperor, the empress decided that he should have it only while performing sacred rites, and should sit as high as the emperor on all other occasions. Kublai and the Ti-szu compared the *Ka-djur* with the Chinese copy and with the collection of the Kin dynasty. This concordant canon was printed in 1285-1806, with the assistance of Thibetan, Uiguric, Chinese, and Sanscrit scholars. The same emperor founded convents in Peking and in southern Mongolia; he restored the temples at U-tai; he surrendered the palaces of the Sung dynasty to the lamas; and he sent an embassy to Ceylon, which brought him the Bhikshu bowl, two molar teeth, and a miraculous image of Sakyamuni. This religious zeal was carried to its highest pitch by the successors of Kublai, so that many Chinese pretended to be monks, in order to escape the payment of taxes and the performance of other duties. About 500,000 such impostors are reported to have been expelled from the cloisters in a single province. After a rule of 89 years, the Mongol dynasty was expelled from China by a native priest of Fo, who founded the Ming dynasty (1368-1647). Among the successors of the great lama of Ssa-skya the most noteworthy were Sang-ko, his brother, and Tasi, a Bodhisattva (1847). They succeeded each other by natural inheritance, and not by incarnation. The Ming dynasty, desirous of maintaining Chinese supremacy in Thibet, divided the power of the hereditary primate. Tai-tsu conferred equal dignities and titles upon 4 lamas (1878). Tshing-tsu (1403-'25) appointed 8 lamas with the title of *tang* (king) to be subordinate to the *Ta-pao-fa-vang*, Garma, who was not of the native primate family. A great reformation was

wrought in Lamaism by the lama Sonkapa, who was immaculately conceived by his mother's falling on a Buddhist inscription, in a mountain gorge in Amdo, not far from the Koko-Nor (1855). He was born with a white beard and with the power of speech, and from his hair was produced a tree with leaves bearing sacred Thibetan inscriptions. After many wonderful performances, he betook himself to Lassa, both for the sake of learning, and at the same time of teaching incomparably more. On being invited to appear before the primate of Ssa-skya, he remained in his cell, so that the great man was obliged to go to him. The high red cap of the protector of beings was knocked down by the low ceiling; and on his speaking haughtily, he received the reply: "Wretch, I hear the sigh of the creature thou art murdering." The primate at this rebuke fell upon his knees, for he was caught in crushing an insect, thus breaking the first of the 10 essential ordinances of the Sramanas. (See BUDDHISM, vol. iv. p. 68.) This Tangutan monk taught with great renown at Lassa (1407-'9), and introduced many improvements. Though he ascended to heaven in 1419, his body is preserved floating in the air in the monastery of dGa'-lDan, which he founded. He is the author of the sect *dGe-lug-sa-pa* (of virtue), and of many books, especially of the *Lama-nim tshhen-po* ("Great Road to Perfection"), and is considered as the incarnation of Mahakala (great time), often reborn and to be reborn; and he is represented in painting between both the highest lamas, with a lotus flower in each hand. The lamp festival is kept in his memory. These two lamas, equal in sanctity, and reciprocal consecrators of one another, have adopted the yellow cap and the views of the reformer. Both bear the title of *Bin-po-tshhe* (great reward); the superior in power is the Dalai lama (Mongolic, ocean-priest); he resides in Lassa. The second is the most reverend *Pan-tshhen* (pundit great), precious jewel; he resides in bKra-shiss Lhun-po (out of which Turner made Teshoo-Loomboo), near Dzigartchi.—Each Buddhist soul is in process of being reborn, as long as it is yet stained by sin; but only a sinless saint can be *khubilghan* or incarnated. Both supreme lamas, the highest orders of other lamas, and the Chinese emperors are capable of incarnation. Although the theory of reativity is founded in that of metempsychosis, and seems to have been developed in India before the 7th Christian century, and although that of incarnation is redolent of Sivaism, the credulity of the Thibetans has developed both theories into the existing Khubilghanism, which reached its present completeness in the 15th century. The Dalai is especially an incarnation of the above mentioned Avalokitesvara, as the Pan-tshhen is of the so called contemplating Buddha, one of whose incarnations was the great reformer. The restorer of Buddhism in Thibet and his disciple Brom, both incarnate, are the prototypes of the double papacy. The reformer was incarnated as Pan-tshhen some

10 times, while there have been about 14 incarnations of the Dalai. According to Osoma de Kôrde, the first Dalai lama was *dGe-hDun grub-pa* (perfect priest), born in 1389, died in 1478. He was the builder of many monasteries, the principal of which is that of Lhun-po. The second was *dGe-hDun rGyam-Theo* (perfect ocean), 1474-1540, who introduced an administrator of temporalities, a sort of *major domus*, called *seDopa* (head director), and who was in vain invited to visit Peking. The third, *bsod-namer Gya-m-Theo* (virtue-ocean), 1541-'87, brought the Mongols, who had strayed away and had partly relapsed into Shamanism, back into the Lamaic fold, by visiting Altan Khakhan (Altan king of kings), who had ravaged Thibet, and by converting him into a strong pillar of the church. A concordat between the two powers stipulated that all animals, instead of being sacrificed, should be given to the lamas; that these should be divided into 4 classes, coordinate with the 4 classes of the Mongolic nobility; that both these orders should be free from taxes and from military service. The khakhan now formally approved the title of Dalai with the epithet of *Vadgradara* (thunderbolt-holder), receiving himself, in return, that of *Chakravartin* (wheel-turner). At the same time it was decreed that a patriarchal cathedral should be erected at Kuku-kho-tun (blue city), between the Tumed and Ordos tribes, whose Khutukhtu or vicar should be the 2d Mongolic patriarch. Having lengthened the life of Altan by one year, the Dalai inaugurated his son as his successor, on his second visit to Mongolia. The emperor of China, alarmed at this alliance between the church and the Mongols, endeavored to regain his influence over the former by granting it new favors.—*Yon-tan rGya-m-Theo* (merit-ocean), incarnated as a Mongol prince, was inaugurated by the Pan-tshhen at Lassa (1601), and held the thunderbolt during 14 years. His vicar, named "Thought-Ocean," reigned among the Khalkas, and afterward in the great monastery of Kuren, on the Tula river, as next in dignity to both lamas. The 5th Dalai, *Ngag dBang bLo bSang rGya-m-Theo* (wise-speaker ocean), 1615-'80, played a double part between the western Mongols and the emperors of China. About 1580 one *Tsho-vang rNam rGyal* (faith-king victor), pretending to be a descendant of a king, fled to Ladakh, whence he conquered a part of Thibet, thus threatening the power of the lamas, abetted probably by the people, while the Mongols favored the tyranny of the priesthood. Between 1588 and 1680, during a sort of interregnum, the Khutukhtus set on foot many intrigues for the benefit of the Pan-tshhen. Under the Ming dynasty Lamaism was shorn of many advantages in China, and also lost the imperial support in Thibet. The Tungusic power founded by Aishin Ghioro, being countenanced by the Mongols on account of their respect toward the lamas, conquered China (1644), and became the 20th dynasty, called Ta-tsing. Takung-tshi restored the privileges of the Lamaic church, at the request of the

Dalai (1686). Khang-hi, availing himself of Lamaic diplomacy, settled the quarrels among the Khalkas (1686) and annexed them to the Chinese empire. He had more difficulty with the Oelöths who had driven them eastward, and whose Galdan-khan, in secret league with the major-domo at Lassa, resisted the Chinese armies for about 16 years, until his power was broken. During these troubles the regent concealed the death of the 5th Dalai for 16 years, appointing in the mean time two pseudo-Dalais. The 6th Dalai lama of approved incarnation ruled from 1706 to about 1756. In 1750 the Chinese garrison was massacred at Lassa, and the regal power was taken from the Dalai. The Pan-tahhen visited Peking in 1779. Beside the violent death of 8 Dalai lamas while yet mere youths, there is little that is noteworthy concerning the other incarnates.—In the popular belief, the Dalai lama, as an incarnation of Buddha-Sakyamuni, is an eternal, omniscient divinity. When officiating, he sits cross-legged and statue-like on 5 magnificent cushions over the altar, dressed in splendid robes, noticing nobody, and moving only his hands to bless his worshippers. Sometimes he distributes balls made of paste, clay, and sacred materials, which are of infinite efficacy. Every thing that belongs to or comes from him, even the most offensive matters, is all-powerful. His immense income from lands, mines, flocks, and offerings, is increased by the sale of holy textures, fumigations, relics of saints, and idols. All other lamas share, in proportion to their authority, in the privileges of the ocean-priest. The doctrine of incarnation was modified at the close of the 18th century. The Dalai sometimes points out his successor, while at other times the books are consulted for that purpose. The emperor of China now determines the incarnation, although, to save appearances, the name of the future incumbent is solemnly drawn by lot from among 3 candidates.—The whole hierarchic scale consists of the following rounds: novice, deacon, *geelong* (virtue beggar), universal doctor, master of religion, abbot, *Khubilghan* (incarnate), *Khutukhtu* (vicar), Pan-tahhen, and Dalai. The 4 last are all incarnations, although some *Khutukhtus* are appointed by a diploma, on account of their learning. The non-incarnate lamas are employed in various lower duties, both ecclesiastical and secular. All lamas are monks. All live in monasteries, each in his own cell, without a common refectory. The centre of a lamasery is occupied by the *Lha-khang* (god-house, temple), which is surrounded by the dwellings of officers, schools, and cells. Some establishments also contain schools of magic. There are few *Gal-pos*, or hermits who live in caves. Vagabond lamas are numerous, and among the Mongols near the great wall some of them tend the imperial flocks. Female lamas are called sisters-in-law, venerable aunts, &c. The disciplinary canon contains 253 rules, in 5 classes. Novices are received at the age of 7 to 15; the second consecration takes place be-

tween the ages of 15 and 20, and the final consecration after the age of 20.—Representations of some of the dresses, ceremonies, &c., of the lamas may be seen in Pallas, *Samm-lung historischer Nachrichten über die Mongolischen Völkerschaften* (St. Petersburg, 1801). Beside the *Ka-djur* mentioned above, there is a greater collection of treatises in 225 volumes, elegantly printed at Peking, containing translations from Sanscrit and Prakrit, on dogmas, philosophy, grammar, medicine, and ethics, with Amara's *kosha* or vocabulary, and fragments of the Mahabharata and of other epic poems. The work of the great reformer, the history of Buddhism, lives of saints, and all sorts of works on theology and magic, fill the libraries. But the Tibetans also possess annals, genealogies, and laws, as for instance the "Mirror of Kings" (translated into Mongolic by Seanang Seetsee, and into German by Schmidt), or *Bodh-imör* ("Way to Wisdom"), and works on astronomy and chronology. The most renowned among the Lamaic schools is that of the Lha-brang of Lassa.—The Lamaic temples are of Indo-Chinese form, square, fronting the east in Thibet and the south in Mongolia. They are often cruciform. There are 3 gates, and 8 interior divisions, viz., the entrance hall, the body of the edifice with 2 parallel rows of columns, and the sanctuary with the throne of the high lama. There are numerous statues, paintings of gods, ornaments, and implements of all sorts, many of which display superior workmanship, especially those by Nepalese artificers; *tha-khangs* (paste-houses) or chapels; *r'Dehods* or stupas; *manis* (gems), or walls and columns with inscribed prayers, frequently consisting of the 6 mystic syllables only, but sometimes extremely long; and *Dar-po tahhe* (silks great), or poles bearing flags with prayers. Prayer wheels, the turning of which is supposed to be quite as efficacious as vocal supplication, are seen everywhere. Festival days, ceremonies, and pageants of all kinds, varied with the performances of magicians, as well as fasts, sacraments, and noisy music, animate the zeal of the faithful. Dead lamas are commonly embalmed and preserved in pyramids. The bodies of rich laymen are burned and their ashes preserved; while those of the common people are either exposed to be devoured by birds, or eaten by sacred dogs, which are kept for the purpose, and the bones are pounded in mortars and given to the animals in the shape of balls. Rich persons about to die are assisted by lamas, who let out the soul by pulling the skin from the skull and making a hole in it. Religious services for departed souls are said in the ratio of payment received. The mode of the funeral is determined by astrology. Since the restoration of the power of the Dalai by the emperor Khian-lung, all the decrees of government are issued in the name of each of the two high lamas, in their respective dioceses; but the real power is in the hands of the emperor, whose two *Ta-tchin* (great mandarins) reside at Lassa, with Chinese garrisons in

the neighborhood, to watch both the ocean of holiness and the *Tsang-vang*, who as vicar of the emperor administers the affairs of the country. The lower offices only are hereditary. The annual tribute of the two high lamas is carried every third year to Peking by caravans.—The principal holy place in Thibet is Lassa, with the monasteries *Lha-brang*, the cathedral; *Ra-mo-tshhe* (circuit great), wherein is the Chinese idol of Fo; and *Moru* (pure), having a celebrated printing office. Near the city is *Gar-ma khian* (mother-cloister), wherein bad spirits are personated, and about a mile distant a three-pointed hill with the chief of all monasteries and palaces, called *Potala* (Buddha's mount), occupied by about 10,000 lamas in various dwellings. Several fine parks and gardens adorn the environs of the holy city. Among the 30 great lamaseries in the neighborhood are *Sse-ra* (golden), on the road to Mongolia, with Buddha's sceptre floating in the air, and 15,000 lamas; *'Brass ssPungas* (branch-heap), founded by the reformer, with a Mongolic school, 300 sorcerers, and 15,000 lamas; and *dGa'LDan* (joy of heaven), also built by the reformer, whose body sometimes converses with the 8,000 lamas. On the road to Ssu-tchuan is *Lha-ri* (god mountain), with a fine temple; there is another sacred place in the metropolis of Kham; others at Tshha-mDo (two ways), Djaya, &c., with printing offices; many others on the roads to Peking, beside the northern monastery; all containing an incredible number of monks, under Khutukhtus, and lower lamas; so that Father Huc counts 3,000 monasteries in U alone; others 84,000 monks in U, Tsang, and Kham, of the yellow sect; hermits, beggars, and vagabonds not included. About 120 miles S. W. from Lassa, near the confluence of the Painom with the great *gTsang-po-tshhu* (Sanpu), is the 2d metropolis of Lamaism, viz., *bKra-Shise-Lhun-po* (mount of grace), also called *bLa-brang*, with 5 great cenobies, many temples, palaces, mausoleums, pyramids, and the like. In the neighboring city there is a Chinese garrison. About midway between the two *bLa-brangs*, there are 3 rocky islands in a lake, called *gYang-brog* (happy desert, Yambro on English maps), which contain temples, a magnificent palace, and thousands of monks and nuns, subject to the *rDo-rDje-Phag-mo* (saint or adamantine sow), a female Khutukhtu, who becomes incarnated with a figure of a sow's snout on her neck, in consequence of her having escaped from Lassa during the troubles of the regency in the shape of that animal. The Chinese believe her to be the incarnate *Ursa Major*. On the road to Nepal there are the *sNar-thang* monastery, where the *Ka-djur* was printed; and *Ssa-skya*, mentioned above, now the see of the red-capped *Gong-rDogs* (high lord) *Rin-po-tshhe*, who is hereditary. On the road to Bhotan are the monasteries *Kisoo* and *Gautum* *Goomba* of Turner, and many others, swarming with lamas, some filled with *Annis* (nuns).—Bhotan is subject to the Dalai; but there are also three red-capped *Rin-po-tshhe*. The metropolis is *bKra-*

Shise Tahoss rDeong (*gloria salutis fideique ara*, Turner's Tassisudon), under an incarnate great lama and a secular *Dharma-rala*, who rules over 6 districts, with about 10,000 lamas amid 45,000 families. In Sikkim the aboriginal *Leptchas* have many mendicant lamas who practise magic, the other tribes being pure Buddhists. Buddhism flourished in Nepal as early as the 7th century of our era. It now exists there with Brahminism and Mohammedanism; so that Nepal has also a double literature. In Kunawar and elsewhere on the upper Sutlej there are many great monasteries of both the yellow and the red caps, living in peace with each other. At Sungnam there is a great library, a printing establishment, and a gigantic statue of Buddha. Ladakh became Buddhist before our era; its history is even less known than that of Thibet. Although invaded by Moslems (about 1650), it has many lamas both male and female. In China there are two Buddhistic sects, viz., that of Fo, since A. D. 65, fostered by the government, very numerous, but without hierarchy, each monastery being under an abbot who is a citizen of the 12th class; and the Lamaists, organized as in Thibet, under the ministry of foreign affairs, with 3 Khutukhtus at Peking, one of whom is attached to the court, while another's diocese is in South Mongolia, and the third governs the central one of their great monasteries. The most celebrated temples in the 18 provinces are one on the U-tai-shan (5-topped mountain) in Shan-si, and one in Yunnan. In Si-fan or Tangut, about the Koko-Nor, Lamaism flourished under the Hia at the close of the 9th century. The great reformer was incarnated in Amdo. The great cenoby of *saKubum* was visited and endowed by Khang-hi, and has a celebrated university. Mongolia is the paradise of lamas, they forming about $\frac{1}{4}$ of its population. Its patriarch, the *Gegen-Khutukhtu*, a *Boddhisattva* of *Maitreya*, is equal in rank to both Thibetan popes, resides at Urga, on the road between Peking and Kiachta, lat. 48° 20', with about 20,000 monks, and has attained the highest *Khubilghanism* by 16 incarnations, having been first the son of Altan Khakhan of the Khalkas, and having once died (1889) after a visit to Peking, either by poison or from licentiousness. The Urgan cenoby owns about 80,000 families of slaves. The cathedral at Kuku Khotun, among the *Tumed*, is under an incarnate patriarch, now second to the preceding. Most cenobies and temples now extant in Mongolia were built or restored after the second conversion. A Khutukhtu rules over the celebrated establishment of the "five towers." Dyo Naiman Suma, the summer residence of the 2d Peking Khutukhtu, contains 108 temples and a famous manufactory of idols. Many other abodes of lamas are scarcely inferior to those we have mentioned. The desert of Gobi contains many such establishments. Sungaria contains numerous ruins of Lamaism, on the Irtysh and elsewhere, among which those of Ablai-Kiit, near Usk-Kamenogorsk, are most

renowned, because the first fragments of the holy canon were brought thence to Europe, about 1750. The Torguts have built many sacred places since their return from the west. A few lamas were found among the Buryäts (in Russia) near Lake Balkal about 160 years ago, as missionaries from Urga. Now almost all of them south of the lake are Lamao-Shamanites, and have wooden temples. The Calmucks between the Don, Volga, and Ural are forbidden to maintain intercourse with the Dalai, although they keep up a Lamaic worship in Shitüni-urgas (church tents).—See Osoma de Körös, "Asiatic Researches," &c.; Huo, *Souvenirs d'un voyage dans la Tartarie, le Thibet et la Chine* (Paris, 1852); Carl Ritter, *Erdkunde von Asien*; K. Fr. Koeppen, *Lamaische Hierarchie*, &c. (Berlin, 1859).

LAMANTIN. See MANATEE.

LAMAR, a N. E. co. of Texas, separated from the Indian territory by Red river, and drained by Sulphur fork of that stream; area, 1,015 sq. m.; pop. in 1858, 8,999, of whom 1,778 were slaves. It has an uneven surface diversified by woodlands and fertile prairies and suitable for grazing. The productions in 1850 were 116,596 bushels of Indian corn, 22,762 of oats, 101,976 lbs. of butter, and 1,055 bales of cotton. There were 6 grist mills, 6 saw mills, and 1 newspaper office. Capital, Paris.

LAMAR, MIRABEAU B., 2d president of the republic of Texas, born in Louisville, Ga., Aug. 16, 1798, died in Richmond, Texas, Dec. 19, 1859. After being employed a number of years in mercantile business and farming, he established in 1828 the "Columbus Inquirer," a journal devoted to the defence of state rights, and was actively engaged in politics until his removal in 1835 to Texas. Arriving there at the outbreak of the revolution, he at once sided with the party in favor of independence, and participated in the battle of San Jacinto, to the successful issue of which the charge of the cavalry under his command greatly contributed. He was soon after called into the cabinet of Gov. Smith as attorney-general, a position which he subsequently exchanged for that of secretary of war. In 1836 he was elected the first vice-president of Texas, having for some months previous held the rank of major-general in the army. In 1838 he was elected president, in which office he remained until 1841. Upon the breaking out of war between Mexico and the United States in 1846, he joined Gen. Taylor at Matamoras, and fought at the battle of Monterey. He subsequently stationed himself with an armed force at Laredo, where for two years he was engaged in constant conflicts with the Comanches, whose depredations on the frontier he greatly curtailed. The last public position which he held was that of U. S. minister to Nicaragua and Costa Rica, from which he had but lately returned when he died. He is the author of a volume of poems entitled "Verse Memorials" (New York, 1857).

LAMARCK, JEAN BAPTISTE PIERRE ANTOINE DE MONNET DE, a French naturalist,

born in Bazentin, Picardy, Aug. 1, 1744, died in Paris, Dec. 18, 1829. He was educated at the Jesuits' college at Amiens with a view of entering the church; but at the age of 17 he suddenly relinquished his studies, and, entering the army, fought under the duke de Broglie in the 7 years' war, until incapacitated by ill health for military duty. He subsequently studied medicine and the physical sciences in Paris, and in 1776 commenced his career as an author by the publication of his *Mémoire sur les vapeurs de l'atmosphère*. In 1778, having previously given much attention to the study of botany, he published his *Flora Française*, containing a new arrangement of plants which was commended by Buffon and the academy of sciences. About the same time he accompanied the younger Buffon on a tour through Germany and Holland to procure botanical specimens; and he became also a companion in the botanical excursions of J. J. Rousseau. Being appointed editor of the botanical department of Panckoucke's *Encyclopédie méthodique*, the results of his researches were embodied in that work. The outbreak of the French revolution interrupted it and terminated De Lamarck's botanical labors. In 1798, although he had previously given comparatively little attention to zoology, he was intrusted with the department of invertebrata in the museum of natural history in Paris. This branch of natural history became thenceforth the absorbing study of his life, and his lectures upon it, commenced in 1794, were continued until the failure of his eyesight in 1818 incapacitated him for the duty. His first important work on this subject, *Système des animaux sans vertèbres* (1801), was the forerunner of a more elaborate treatise published many years later. In 1809 appeared his *Philosophie zoologique* (2 vols. 8vo.), in which a fanciful theory of the development of animal functions, previously hinted at in an early work, is developed at considerable length. It was his opinion that new organs could be produced in animals by the simple exertion of the will, called into action by the creation of new wants; and that the organs thus acquired could be transmitted by generation. In support of this doctrine, which is called appetency, he cited the existence of tentacula on the head of the snail, which derive their origin from the desire of the animal, united with endeavor perpetuated and imperceptibly working its effect through a series of generations, to possess organs capable of examining the bodies it encounters; and the same thing, he asserted, had happened "to all races of gasteropods, in which necessity has induced the habit of touching bodies with some part of their head." This theory has however never been adopted by naturalists. In 1815-'22 appeared De Lamarck's chief work, *Histoire naturelle des animaux sans vertèbres* (7 vols. 8vo.), by far the most comprehensive treatise on the invertebrata which had appeared, and of which the edition of 1884-'45, with notes by Deshayes and Milne-Edwards,

is a standard manual on the subject. His division of the animal kingdom includes 3 groups, the apathetic, the sensible, and the intelligent. The 1st comprises *infusoria*, *polyparia*, *radia-ria*, and *vermes*; the 2d, *insecta*, *arachnida*, *crustacea*, *annelida*, *cirripeda*, and *mollusca*; and the 3d, *pieces*, *reptilia*, *aves*, and *mammifera*. Some of his statements respecting the habits and functions of the apathetic animals have been disproved by the researches of Ehrenberg and later naturalists. His last work was his *Mémoires sur les coquilles*, published in the *Annales du muséum*, in which he was assisted by Valenciennes, and by his daughter Mlle. de Lamarck.

LA MARMORA, ALFONSO DE, marquis, a Sardinian general and statesman, born Nov. 17, 1804. He was admitted to the military academy of Turin in 1816, and left it in 1823 with the rank of lieutenant of artillery. He took an active part in introducing reforms into the organization of the army, and in the war against Austria in 1848. In 1855 he was commander of the Sardinian forces in the Crimean campaign. He has officiated on several occasions as minister of war and marine. He continues to hold this position (1860), having presided for some time over the ministerial council before Count Cavour's resumption of the post of prime minister of Sardinia.

LAMARQUE, MAXIMILIEN, count, a French soldier and political orator, born in St. Sever, July 23, 1770, died in Paris, June 1, 1832. He enlisted in the army in 1791, was sent to Spain, reached the rank of captain, and joined the corps styled the *colonne infernale* under the command of Latour d'Auvergne. In 1794, at the head of 200 soldiers, he stormed Fuenterrabia, for which he was rewarded by promotion to the rank of adjutant-general, and a decree of the convention declared that "he had merited well of his country." After the peace with Spain, he served under Desolles and Moreau on the Rhine, distinguished himself at Hohenlinden, and was made a brigadier-general in 1801. He afterward joined the army under Napoleon, and participated in the battle of Austerlitz. He shared in the invasion of Naples, was present at the taking of Gaëta in 1806, smothered the insurrection in Calabria, and worsted some British detachments in 1807. In the same year he was made general of division, and under Joachim Murat, who had succeeded Joseph Bonaparte as king of Naples, undertook in 1808 to capture the island and fortress of Capri, which was defended by the English garrison under Sir Hudson Lowe. He accomplished his purpose in a manner which secured him universal admiration. The army of Italy having joined the grand army on the Danube, Lamarque distinguished himself at Wagram, where he had 4 horses killed under him. Being afterward sent to Spain, he led the rear guard when the French evacuated the Peninsula. He felt little sympathy for the first restoration; and Count Blacas congratulating him upon the rest

he would now be able to enjoy, he replied: "We do not call this rest, but a halt in the mud." On the return from Elba, Napoleon appointed him to the command of Paris, and sent him to the west, where he succeeded in suppressing the royalist insurrections. On the second restoration he was exiled and retired to Amsterdam, where he devoted his time to literature, art, and the education of his son. In 1818 he was allowed to return to France, and settled in his native town. In 1828 he was elected to the chamber of deputies by the department of Landes, and took his seat among the opposition. He was one of the 221 members who voted against the elder branch of the Bourbons; but being dissatisfied with the policy of Louis Philippe's government, he opposed the ministry, and, turning his special attention to foreign affairs, bitterly denounced the system known as that of *la paix à tout prix*. His honesty of purpose, sincerity, and martial eloquence gained him great popularity. His funeral, which took place June 5, 1832, was attended by a large crowd of citizens; and the republicans took advantage of the circumstance to raise a formidable insurrection in the most populous districts of Paris. The whole army in Paris and the national guard marched against the insurgents, who yielded after nearly 48 hours of bloodshed.

LAMARTINE, ALPHONSE DE, a French poet and statesman, born in Mâcon, Oct. 21, 1792. His father, the chevalier de Lamartine de Prat, was captain in a regiment of cavalry at the outbreak of the revolution; fought with the Swiss guards in defence of the throne against the insurgents on Aug. 10, 1792; passed the reign of terror in prison; and, on the fall of Robespierre, retired with his wife and child to the village of Milly, near Mâcon. There the genius of the poet began to develop in domestic serenity, under a mother's discipline, with a small library, including Fénelon, Bernardin de St. Pierre, the abridged and profusely illustrated Bible of Royaumont, and a translation of Tasso's *Gerusalemme liberata*, which books were his first masters, and opened to him "the world of emotion, and love, and reverie." In his 12th year he was sent to study Latin under a neighboring priest, a sportsman as well as ecclesiastic, whose adventurous life afterward furnished the subject of *Jocelyn*. He was soon transferred to the college of Lyons, and again to the school of the Jesuits at Belley, whence he returned in 1809 to Milly. Abandoning his classical studies, in which he had taken little interest, he read the modern poets, Dante, Petrarch, Shakespeare, Milton, Châteaubriand, and, above all others, Ossian, whom even in his mature years he esteemed superior to Homer and the rival of Dante. His *Confidences* relate his attachment at this time to a rustic maiden, who was his neighbor, to divert him from which his parents sent him to Paris, whence in 1811 he accompanied one of his relatives to Italy. Pursuing his journey alone, he passed a studious and contemplative winter at Rome in the house of an

old painter, and in the spring went to Naples, where he had the company of his dearest school-fellow, and in various adventures and meditations along the borders of the bay cultivated the sentiments and filled his imagination with the pictures which were to enrich his poems. Recalled to France near the close of the empire, a royalist by the tradition of his family, and cherishing against the imperial régime the hatred which afterward inspired the preface of his *Méditations*, he entered the body guards in 1814, and on the escape of Napoleon from Elba accompanied the royal family to the frontier, and passed the Hundred Days in Switzerland and Savoy. He returned to the capital after the second restoration, and was introduced to the family of Count de Maistre, whose peculiar opinions gave a more spiritual character to his thoughts. Several years were thus devoted to revery, pleasure, travels, and serious studies in Paris, where he meditated dramas and wrote numerous elegiac pieces, some of which he occasionally recited with applause in the salons of Mme. de Saint Aulaire and of the duchess de Broglie, then centres of elegance and taste. In the elegy of the *Lac*, written on one of his visits to the valley of Aix in 1817, he first displayed the genius of a great poet. The death of a friend, his own illness, and his relations with the distinguished families which led the religious reaction of the restoration, had given a sombre cast to his thoughts, which appears in this melodious elegiac expression of the rapid flight of time, and the contrast between the permanence of nature and the instability of human things. His first published collection appeared in 1820 under the title of *Méditations poétiques*, which was received with universal admiration, recalling Chateaubriand's *Génie du Christianisme* by its success as well as by its religious fervor. Within 4 years 45,000 copies were sold. At this time Béranger and Lamartine divided the poetic world, reigning with nearly equal authority. The songs of the former charmed the senses, celebrating youth, pleasure, wine, and glory; the elegies of the latter, marked by a touching melancholy, appealed especially to the young men and women of the aristocracy, enthusiastically devoted to the work of Catholic restoration, and delighting in the contemplation of nature and the ceremonies of worship. This work opened to the author a diplomatic career, and he became secretary to the embassy at Naples. On his way he married at Geneva Miss Birch, a young English lady of a wealthy family, who had received a brilliant literary and artistic education, and who brought as a double dowry her enthusiasm and her riches. He resided at Naples, Rome, or Paris, till in 1823 he published his *Nouvelles méditations*, which, though it contains more of his finest pieces than any other collection, as the *Ode sur Bonaparte*, *Les étoiles*, *Sapho*, *Le chant d'amour*, and *Le poète mourant*, was less popular than his previous volume. It was followed by his *Dernier chant de Childe Harold* (1825), an imitation

of Byron, containing an admirable but severe tirade on Italy, which was answered in an insulting pamphlet by Col. Pepe, an Italian revolutionist. The result was a hostile meeting between the poet and the patriot at Florence, in which the former was wounded. He returned to Paris after a residence of 5 years in Florence, declined to enter the ministry of Polignac, was received into the French academy, and published his *Harmonies poétiques et religieuses* (1830), which gave new proof of his luxuriant genius, and in which, as was said, the throne and the altar found their most brilliant and earnest defender. He had been appointed minister plenipotentiary to Greece previous to the revolution of July, 1830, upon the accomplishment of which, on account of his attachment to the fallen dynasty, he renounced diplomacy and rejected the advances of the new monarchy. A political pamphlet in 1831 proves, however, that he shared neither the hopes nor the antipathies of the legitimist party, and that he vaguely regarded the new government as a stage of transition. Perceiving that the age demanded action and not regrets "for the past which is now but a dream," that all ought to enter the ranks of citizens, and think, speak, and combat for the public weal, he offered himself successively at Toulon and Dunkirk as a candidate for the chamber of deputies. His double failure was the occasion of an attack by the poet Barthélemy, to which he published a reply admirable for its dignity and good taste and its poetical power. In 1832 he undertook a journey to the East, which had been the religious and romantic dream of his life. He set sail from Marseilles, with his wife and daughter, in a vessel chartered and furnished by himself, having a library, an arsenal, and princely presents for the chiefs of the countries which he was to visit. The French emir, as the Arabs called him, travelled like a sovereign, buying houses at which to tarry, and having whole caravans of horses in his service. Leaving his family at Beyroot, he pursued his way alone toward Jerusalem. In traversing the chain of the Lebanon he was warmly received by Lady Hester Stanhope, the visionary queen of Palmyra, who prophesied impending calamities in Europe and a distinguished political career for himself. By lavish expenditures and the protection of Ibrahim Pasha he reached Jerusalem in safety, where he learned the death of his daughter at Beyroot. He returned after 16 months by way of Constantinople and the valley of the Danube, and published his *Voyage en Orient, souvenirs, impressions, pensées et paysages* (4 vols., 1835), a splendid though sometimes careless mingling of religion, history, philosophy, politics, and poetry. During his absence the electors of Bergues, Nord, had elected him deputy, and he entered the chamber two months after his arrival in France, appearing for the first time in the tribune, Jan. 4, 1834. "I return to France," he said, "to bring my stone for the modern edifice, if indeed it be

given to our generation to found any thing." Though he acted with no political party, his eloquence, if not his statesmanship, gave him distinction, and many who doubted the aptitude of the poet for material questions admired in his discourses the language of poetry applied to affairs, and his imposing treatment of the most positive interests of government from the point of view of the noblest sentiments. But from his political isolation, he occupied the public for several years less as a deputy than by his new writings. In 1836 appeared *Jocelyn*, a poem of love and duty, announced as a journal found in a village curacy, and as an episode or fragment of a vast poem of humanity which was to embrace all ages of nature and forms of civilization. It is one of his finest productions, combining dramatic movement with lyric fervor, and pictures of the conflicts of society, the storms of passion, the temptations and catastrophes of life, with glances at the eternal problems of philosophy. "A great silence," says Jules Janin, "was made around that book." It was only after a little hesitation that the most cultivated readers and critics received it as a model of the only epopee possible to our time. Two years later followed *La chute d'un ange*, a poem of the antediluvian era, in which the author revels in the mysteries of primitive humanity and in the strangest fancies of the Orient. Its negligences and extravagances justified the coldness with which it was received. Similar defects appeared in his *Recueils poétiques* (1839). Having formed the habit of improvising all his verses, their beauties were only occasional and hardly more than happy accidents. In the preface to this collection he declared it to be his duty and purpose from that time to make poetry the vassal of politics in his career. As an orator he made remarkable progress in the chamber. His speeches on the eastern question, on the abolition of the death penalty, on the protection of literary property, and on various projects of social improvement, delighted the deputies without commanding their votes, and were eagerly read through the country. At once conservative and progressive, he stood between the ministry and the opposition, assailing the inflexibility of the one and the violence of the other. He defended the administration of Molé (1837-'9) against the powerful coalition of Thiers, Berryer, Guizot, and Garnier-Pagès, and was at the same time the head of what was called the "social party." This small but subsequently powerful clique, avoiding purely political questions, and mingling St. Simonian with evangelical ideas, sought the universal progress of the nation by "legislating Christianity." After the formation of a new ministry (May 12, 1839), he opposed Villemain, Thiers, and Guizot in the important discussion on the eastern question, his intimate acquaintance with the subject and his pictorial delineations of its romantic aspects giving additional force to his arguments. Regarding the fall of the Ottoman empire as imminent, he

proposed a vast European colonization of Asia, an organization of the Orient into provinces under the protection of the great powers of Europe, and recommended a congress of these powers to settle the conditions in advance. He separated again from the cabinet, and foreshadowed his ultimate adherence to the liberal side, by contending in 1842 that the regency should be conferred on the duchess of Orleans by a vote of the chamber, thus asserting the principle of the national sovereignty. Declaring that the July monarchy had no great and directing idea, he soon broke definitively with what he termed the "party of limitations," and opposed the ministry of Guizot not only in the chamber, but finally also by addresses at the reform banquets. He already anticipated the subversion of the throne, to which he powerfully contributed by his *Histoire des Girondins* (8 vols., Paris, 1847), a magnificent historical picture gallery, in which the heroes of the first revolution appear in the most attractive colors. After the abdication of the king and the escape of the royal family, in the last assembly of the chamber (Feb. 24, 1848), where the duchess of Orleans appeared with her eldest son, the count of Paris, whom it was attempted to declare king by acclamation, and where an armed and tumultuous crowd overlooked the proceedings, the eloquence of Lamartine decided the establishment of a provisional government, which he was among the first to propose. The irruption of new bands of insurgents increased the confusion, amid which he vainly attempted to read the list of names for the government which he had chosen from the various parties. The list was completed at the Hôtel de Ville, whither he had repaired followed by an immense throng, and was announced by him to the populace. On the following morning (Feb. 25) the insurgent and famishing crowds, which had just sacked the Tuileries, appeared before the Hôtel de Ville, threatening destruction if they were not immediately supplied with bread and work. Cries of *Le drapeau rouge* (the red flag), the symbol of terror, were already heard, when Lamartine advanced alone into the midst of the infuriated mob, and gained his greatest triumph of eloquence. To his intrepid stand on this occasion, while the most violent of those about him were trying to level their muskets at him, it is mainly to be attributed that the republic did not pass immediately into a new reign of terror. He took the department of foreign affairs in the government, and one of his first acts was to address a pacific circular to the ministers of foreign states, in which the design of forcible revolutionary propagandism was disavowed. His unrivalled fame and eloquence and his rare courage gave him also a predominance in the general direction of affairs. He opposed the radicalism of his colleague Ledru-Rollin, and his popularity was proved by his election to the national assembly (April 23) from 11 departments, without having expressed a wish to be a candidate. He was received with

acclamations in the street, the audience rose to greet him at the opera, and constant applause interrupted him when he made his report to the assembly of his administration. The first place in the executive commission, which was to succeed the provisional government till the formation and acceptance of a constitution, seemed destined for him, when he fatally compromised his popularity by a coalition with Ledru-Rollin, urging even that the latter should be appointed on the committee, since he deemed him less formidable in the government than in opposition. The result was, that instead of being the first he was the fourth on the list. His voice failed of its accustomed effect when he was sent for to address the insurgents of May 15. After striving to prevent the insurrection of June, and after fighting in person against the insurgents, he perceived that the time demanded not reason but the sword, favored the dictatorship of Gen. Cavaignac, and resigned his own executive office. In the debate on the constitution he supported the plan which was adopted of vesting the power of legislation in one chamber, the president of which should be the chief magistrate of the republic. Though ably supported for the presidency by Pelletan and La Guéronnière in the *Pays* newspaper, he received but 19,900 votes, and he was returned to the assembly in 1849 only by one obscure department. He did not recover his leading position in that body, and he retired from public life after the *coup d'état* of Dec. 2, 1851. For several years his private affairs had demanded much of his attention. From the time of his oriental tour, the income of his writings and diminished fortune, and the illusive wealth of large territorial grants by the sultan, had been unequal to the expenditures incident to his elegant mode of life. He condemned himself therefore to indefatigable literary labors in the production of numerous works, often of ephemeral importance. His principal later publications are: *Trois mois au pouvoir* (1848); *Histoire de la révolution de 1848* (2 vols., 1849); *Confidences and Raphaël* (1849), memoirs of his youth; *Toussaint L'Ouverture* (1850), a drama; *Geneviève* (1851); *Le tailleur de pierre de Saint Point* (1851); *Histoire de la restauration* (6 vols., 1851-'8); *Visions* (1852), a poetic fragment; *Nouveau voyage en Orient* (1858); *Histoire des constituants* (4 vols., 1854); *Histoire de la Turquie* (6 vols., 1854); *Histoire de la Russie* (3 vols., 1855); and the periodicals *Le conseiller du peuple* (1849-'52), *Le civilisateur* (1852-'6), and the *Cours familier de littérature* (1856 *et seq.*). His friends opened a subscription in 1858 in his favor, but with unsatisfactory results. The municipality of Paris presented him in 1860 with a country seat near the Bois de Boulogne. Among the best editions of his collected works are the *Œuvres choisies et épurées* (14 vols., 1849-50).

LAMB, CHARLES, one of the most peculiar and delightful of English authors, born in London, Feb. 10, 1775, died in Edmonton, Dec. 27, 1834. His father, originally from Lincolnshire,

was servant and friend to one of the benchers of the Inner Temple. While performing his humble duties with assiduity, he was not without literary ambition, and published a volume of occasional verses which evince his humor and taste. His character is happily drawn under the name of Lovel in the essay of Elia on "The Old Benchers of the Inner Temple": "He was a man of an incorrigible and losing honesty; had a face as gay as Garrick's, whom he was said greatly to resemble; moulded heads in clay or plaster of Paris to admiration, by the dint of natural genius merely; had the merriest quips and conceits; was altogether as brimful of rogueries and inventions as you could desire; and just such a free, hearty, honest companion as Mr. Izaak Walton would have chosen to go a fishing with." In the Inner Temple Charles passed the first 7 years of his life, and was then sent to the school of Christ's hospital, where he remained till his 15th year. Of delicate frame, and constitutionally timid, though his sweetness of disposition made him a favorite, he was wont to steal along among his boisterous companions "with all the self-concentration of a young monk." Samuel Taylor Coleridge was his schoolfellow, and one of his earliest and most esteemed friends. But for a slight impediment in his speech, causing a hesitancy which became one of the charms of his conversation, and which unfitted him for the clerical profession, he might have passed from school to the university; and the reluctance with which he accepted a different fortune appears from the fondness with which in after life he regarded the two ancient seats of learning in England, and the delight with which he often passed his vacations in their neighborhood. He was employed in the South sea house from 1789 to 1792, when he obtained an appointment in the accountant's office of the East India company, which he held with a gradually increasing salary until his retirement with a pension in 1825. To meetings with Coleridge on his visits to London from Cambridge, when they used to sup together at an inn, and sit in conversation nearly through the night, he attributed the first quickening of his intellect to literary activity, saying in a letter to him: "You first kindled in me, if not the power, yet the love of poetry, and beauty, and kindliness." A calamity which gave an impress to his life occurred in the latter part of 1796. There was a tendency to insanity in his family. He himself at the age of 20 was confined 6 weeks in a madhouse. "Many a vagary," he says, "my imagination played with me, enough to make a volume, if all were told." He was not again affected, but the tendency was more strongly marked in his sister Mary. On Sept. 22 she killed her mother in a paroxysm of madness, and Charles was at hand only in time to snatch the knife from her grasp. From this time her life was an intermittent insanity. She always had premonition of the recurrence of her disorder, and would herself indicate the moment when her brother should take her to the asy-

lum, where she would remain until her restoration. He devoted himself only to her, and admitted no connection which could interfere with his single care to sustain and comfort her. His first compositions were in verse, written slowly and at long intervals. His earliest printed poems are contained in a volume published conjointly with Coleridge and Charles Lloyd in 1797, and republished only in conjunction with Lloyd in 1798. In that year he produced also his prose tale of "Rosamund Gray;" was associated with Coleridge and Southey in preparing a volume of fugitive poetry under the title of the "Annual Anthology," which was ridiculed by Canning in the "Anti-Jacobin;" and was engaged in writing the tragedy of "John Woodvil," which was rejected by the managers, and soon after its publication in 1801 received a bantering notice from the "Edinburgh Review" as a specimen of the rudest condition of the drama, the work of "a man of the age of Thespia." He made one other dramatic attempt, "Mr. H.," a pleasant farce, which, although unfitted by its trivial plot for the stage, was produced at Drury Lane theatre in 1806 with Mr. Elliston in the principal character. It was damned on the first night, and Lamb, who sat with his sister in the front of the pit, gave way to the common feeling, hissed and hooted as loudly as any one, and henceforth made a jest of the wreck of his dramatic hopes. He had already begun his studies of the old English authors, whom he always preferred to later writers with one or two exceptions, and published in 1808 his "Specimens of English Dramatic Poets who lived about the Time of Shakespeare," with appreciative and suggestive notes, which was more favorably received than his preceding works. To the "Reflector," a quarterly magazine established by Leigh Hunt in 1810, he contributed some of his finest pieces, as the essay "On Garrick and Acting," which contains his character of Lear, the "Essays on Hogarth," and the "Farewell to Tobacco." His celebrity as an author and the circle of his literary friends had greatly increased when the establishment of the "London Magazine" in 1820 occasioned the compositions by which he acquired his most brilliant reputation, the "Essays of Elia," first collected in 1823, to which the "Last Essays of Elia" were added in 1833. In 1825 occurred one of the principal events of his uneventful life, his retirement from his clerkship. His salary had then become £700 per year, and he was allowed a life annuity of £450. Great consideration had uniformly been shown him by his superiors. So highly did he value the independence thus obtained by drudgery, that he advised one of his friends rather to seek five consolatory minutes between the desk and the bed, or even to throw himself "from the steep Tarpeian rock, slapdash, headlong upon iron spikes," than to rely solely upon literary labor for support. His exultation on his release appears in his letters: "I came home forever on Tuesday in last week.

The incomprehensibleness of my condition overwhelmed me. It was like passing from life into eternity." The interesting circle of friends of which he formed the centre, and his social qualities, are quite as important in his biography as his writings. Coleridge, Lloyd, Southey, Godwin, Manning, Wordsworth, George Dyer, Hazlitt, Talfourd, Bernard Barton, Leigh Hunt, Cary, Procter, De Quincey, and Hood were among those who shared his intimacy. Many of these were wont to meet at the Wednesday evening parties of Charles and Mary Lamb in his chambers in Inner Temple lane, which would occupy a large space in a literary history of his epoch, and which his biographer elaborately compares with the evenings of Holland house. Lamb presided over the motley group, stammering out puns, witticisms, and fine remarks, while his countenance is described as presenting a sort of quivering sweetness, "deep thought striving with humor, the lines of suffering wreathed into cordial mirth;" and his whole appearance resembled his own characterization of another person, "a compound of the Jew, the gentleman, and the angel." Though many of his curious sayings have been recorded, it is affirmed that they give no idea of the singular traits, the verbal felicities, and happy thoughts of his conversation. His single frailty was the eagerness with which from an early period of life he would quaff exciting liquors, snatching a fearful pleasure "between the acts of his distressful drama." He made a final abandonment of tobacco, though he had learned to smoke the strongest preparations of the weed, affirming to Dr. Parr that he had toiled after this power as some men toil after virtue. His large intellectual tolerance, cherishing among his intimate associates men of every variety of philosophical, religious, and political opinions, has rarely been equalled. He delighted especially in individual peculiarities and oddities, and in all striking displays of human nature. During the last 6 years of his life he resided with his sister successively at Islington, Enfield, and Edmonton, often visiting his old associates in London, heavily afflicted by the deaths of Coleridge and Hazlitt, and with little disposition to write any thing but verses and essays that were given to his friends. While taking his daily morning walk he accidentally fell, slightly wounding his face, and erysipelas ensued, which terminated fatally. In his last moments, when nearly insensible to things around him, his mind seemed intent on hospitable purposes, and he proposed in broken sentences some meeting of his friends. Beneath all his inconsistencies, his fantastic ideas, subtle perceptions, absurd fancies, and mingling of jest with seriousness, the most constant and prominent feature of his character was amiability. With a giant sorrow ever impending over him, he seems to have been at every moment genial, loving, appreciative, whimsical, thoughtful, and sad. The "Essays of Elia," his best literary bequest, hold a peculiar place in English literature, which contains few things so exquisite.

The style is a model of quaint and graceful elaboration, showing both his original genius and his familiarity with the fine sayings of the Elizabethan age; and they abound as well in profound thoughts as the rarest fancies and felicities of expression. His works were edited, with a biography consisting largely of his letters, which are among the most delightful in the language, by Thomas Noon Talfourd (1 vol. 8vo., London, 1840; 4 vols., 1850; with addition of the "Final Memorials," 1 vol., 1852; 4 vols., 1855). The "Specimens of English Dramatic Poets," and other writings of his, are not included. The "Essays of Elia" have been published separately (Boston, 1860).—MARY ANNE, sister of the preceding, an English authoress, born in London in 1765, died in St. John's Wood, May, 20, 1847. She resided constantly with her brother until his death, except when the occasionally recurring fits of her insanity obliged her removal to the asylum until she recovered. She wrote a few slight poems, and in conjunction with him the "Tales from Shakespeare" (1807), and a collection of tales entitled "Mrs. Leicester's School" (1808). The stories by her are, as Charles delighted to insist, the best of the collection. When well, she was remarkable for the sweetness and placidity of her disposition, and was said by Hazlitt to be the only thoroughly reasonable woman he had ever met. On Charles Lamb's death the East India company granted to her the pension to which a widow was entitled, and her brother had beside made her comfort secure by his own savings.

LAMBALLE, MARIE THÉRÈSE LOUISE DE SAVOIR-CARIGNAN, princess of, born in Turin, Sept. 8, 1748, murdered at the prison of La Force in Paris, Sept. 3, 1792. She was early remarked for her intelligence, sweetness of temper, and personal beauty. In 1767 she was married to the prince of Lamballe, son of the duke of Bourbon-Penthièvre. This union was not happy, and the princess was about to seek a separation when her husband died, May 7, 1768. On the death of Marie Leszcynska and Mme. de Pompadour, a marriage was proposed between her and Louis XV.; but the project was defeated by Choiseul and his adherents. When Marie Antoinette came to France, she conceived a strong attachment for the princess, and on her accession to the throne appointed her superintendent of the royal household. The princess in return proved a devoted friend. She saw without jealousy the growing favor of the duchess of Polignac, and silently kept aloof; but when the latter, on the breaking out of the revolution, deserted her mistress, she returned to her post. She was at the queen's side on the dreadful days of June 20 and Aug. 10, 1792, and accompanied her to the legislative assembly and afterward to the Temple. On Aug. 19 she was separated from her mistress and confined in the prison of La Force, where, despite the most energetic measures to save her, she fell a victim to the September massacre. When she appeared before the tribunal which passed sentence upon

the prisoners, she answered with firmness and dignity. She refused to take the oath against the king, the queen, and monarchy; and scarcely had the verdict, "Out with her," been uttered, when she was struck down with a billet by a drummer boy and despatched with the sword. A butcher boy cut off her head; her body was stripped naked and exposed to the crowd; her heart was torn out and placed with her head on a pike, and these bloody trophies were carried first to the Palais Royal, where the duke of Orleans, her brother-in-law, was forced to salute them, and then to the Temple, where they were paraded under the windows of the queen. The *Mémoires relatifs à la famille royale de France* (2 vols. 8vo., Paris, 1826), gathered from her conversations and memoranda, were published by Mrs. C. Hyde, the marchioness Solari; but their authenticity has been questioned.

LAMBERT, DANIEL, an English giant, born in Leicester, March 18, 1770, died in Stamford, June 21, 1809. Neither his parents, brother, nor sisters were of unusual size, but an uncle and an aunt were remarkable for corpulency. In his youth he excelled in strength, was fond of field sports and other athletic exercises, but gave no indications that he should attain excessive bulk till his 19th year. He soon after succeeded his father as keeper of the prison in Leicester, and his rapid increase in size from that time he attributed to his confinement and sedentary life. In 1793, when he weighed 448 lbs., he walked from Woolwich to London with less fatigue than several other men in his party. He was noted as a swimmer, and could float with two men of ordinary size on his back. When his office was abolished in 1805, an annuity of £50 was settled on him in acknowledgment of the universal satisfaction he had given. Being incommoded by the curiosity of numerous visitors from the adjacent country, he decided in 1806 to exhibit himself in London. His apartments in Piccadilly became almost a place of fashionable resort, and his visitors were received with politeness, and treated him in the most respectful manner. Among the foreigners who went to witness the spectacle was the Polish dwarf Count Borowlaski. He remained 5 months in the metropolis, and afterward exhibited himself in the principal towns of England. He was 5 feet 11 inches in height, and at his death he weighed 739 lbs. He measured 9 feet 4 inches round the body, and 3 feet 1 inch round the leg. He never drank any beverage but water, slept regularly less than 8 hours per day, was healthy, active, and vivacious through life, and took part in all the sports of the field till within a few years of his death.

LAMBERT, JOHANN HEINRICH, a German philosopher and mathematician, born in Mülhausen, Aug. 29, 1728, died in Berlin, Sept. 25, 1777. He belonged to a poor Huguenot family driven from France by the revocation of the edict of Nantes, and was chiefly self-educated. His first occupation was that of a copying clerk. At the age of 17 he became secretary to the

editor of a newspaper at Basel, and while acting in this capacity had an opportunity of making himself acquainted with the works of Wolf, Locke, and Malebranche. In 1748 he removed to Coire, in Switzerland, and became private tutor in the family of Count Peter de Salis, then president of the confederation. In 1756-'8 he visited Holland, France, and Italy with his pupils. While in Holland he published his first book, *Sur les propriétés remarquables de la route de la lumière*, &c., which at once gave him a high rank as a mathematician. In 1759 he resigned his tutorship, and removed to Augsburg, but, having been appointed to determine the boundaries between the country of the Grisons and the Milanese, he returned to Coire in 1761, and sojourned there till 1768. In 1764 he went to Berlin, and was made a member of the royal academy of sciences; in 1770 he was appointed superior councillor of the board of works; and in 1774 was intrusted with the superintendence of the "Astronomical Almanac." He was regarded as the most analytical writer on scientific subjects of his day. Among his most important works are: *Insigniores Orbis Cometarum Proprietates*; *Novum Organum*, a metaphysical treatise in the Aristotelian style; and *Beiträge zum Gebrauche der Mathematik und deren Anwendung*, a series of mathematical essays.

LAMBERT, JOHN, an English parliamentary general, born in Kirkby-Malhamdale, in the west riding of Yorkshire, Sept. 7, 1619, died in the island of Guernsey in 1692. He was educated for the bar, but at the outbreak of the civil war entered the parliamentary army as a captain under Fairfax, and participated in the principal engagements in England and Scotland until the final overthrow of the royalists at the battle of Worcester, Sept. 8, 1651, at which time he held the rank of major-general. He was instrumental in procuring the recognition of Cromwell as protector, and took his seat in the first parliament called by him. But upon the assumption by Cromwell in 1657 of sovereign power, and his inauguration with the solemnities applicable to monarchs, he refused to take the required oath of allegiance and retired in displeasure from public life. After the death of Cromwell he associated himself with the general council of officers of the army, and aided in deposing Richard Cromwell, even venturing, on the credit of his military reputation, to aspire to the position of protector. As a leader of the fifth monarchy men and extreme republicans, he was prominent in procuring the return in May, 1659, of the remnant of the long parliament called the "rump;" and upon the rising of the royalists in Chester in August of the same year he promptly marched thither and defeated them. This success however excited the jealousy of parliament, and on a flimsy pretext Lambert with other officers was cashiered; whereupon the former with a body of soldiers dispersed the members, Oct. 18, and a committee of safety appointed by the army, of which Lambert was the controlling spirit, began to exercise the functions

of government. His position at this time was of so much importance that it was considered not unlikely, in the event of his own schemes of sovereignty proving impracticable, he might make terms with Charles II.; and some of the adherents of the latter went so far as to recommend him to secure the services of Lambert by marrying his daughter. Meanwhile Monk commenced his march from Scotland for the purpose of restoring parliament. Lambert at the head of 7,000 men started to oppose him; but his troops deserted in great numbers, and in Jan. 1660, he was seized by order of parliament, which had reassembled during his absence, and committed to the tower. Monk's design to restore the monarchy being now manifest, the hopes of the republicans began again to centre in Lambert, who, escaping from the tower in April, put himself at the head of a body of troops in Warwickshire. His men again deserted him, and he was recaptured by Col. Ingoldsby and conveyed to the tower. Having been excepted from the bill of indemnity after the restoration, he was tried in 1662 in the court of king's bench with Sir Harry Vane, and convicted. Unlike Vane, he was reprieved at the bar and banished to Guernsey, where he devoted the rest of his life to botany and flower painting. He is said to have died a Roman Catholic.

LAMBESSA, or LAMBÈSE, a French penal colony in the Algerine province of Constantine, founded in 1848. The number of criminal prisoners amounted in 1856 to nearly 800. Of political offenders there were about 300 who had taken part in the insurrection of June, 1848, and almost 2,000 were transported in 1852. A French commander resides in the place, and is supported by a body of officers and soldiers. Lambessa contains a church, a hospital, a post office, and various other public buildings, the principal of which is the prison, built at a cost of \$350,000. The prisoners are permitted to work at their former trades; half of the proceeds of their labor is given to them at once, and the remainder when they are set free. The neighboring country is well adapted for agriculture and fruit growing, but is not yet much cultivated.—Lambessa occupies the site of the ancient Lambese or Lambæsa, which was one of the most important cities in the interior of Numidia, belonging to the Massylii. Under the Romans an entire legion was stationed here, and among its interesting ruins are the remains of an amphitheatre, a temple of Æsculapius, a triumphal arch, and other buildings, enclosed by a wall, in which 40 gates have been traced, 15 of them still in a good state of preservation. The population could not have been much less than 50,000. A synod was held there in A. D. 240, attended by 100 prelates. The site of this ancient city was discovered in 1844 by the French commandant Delamarre.

LAMBETH, a parish and suburb of London, 1½ m. S. W. from St. Paul's cathedral, on the S. side of the Thames, here crossed by the Waterloo, Westminster, and Vauxhall bridges; pop.

in 1851, 189,240. The borough of Lambeth returns 2 members to the house of commons. Lambeth palace, the town residence of the archbishop of Canterbury, is situated between Vauxhall and Westminster bridges, opposite the new houses of parliament. This property was acquired by the see in 1197, and has been improved by successive incumbents. The palace stands on a low site close to the river, surrounded by gardens 12 acres in extent. Its objects of interest are the Lollards' tower, founded some time prior to 1443; the banqueting hall; the chapel, with a fine roof of carved oak; and the library. Among its many literary treasures and curiosities is a superb Arabic Koran, presented by the governor-general of India through Claudius Buchanan in 1805, who calls it "the most valuable Koran of Asia." The library also contains the archiepiscopal registers of the see of Canterbury in regular succession from the year 1278, and the parliamentary surveys of ecclesiastical benefices in the time of the commonwealth, now used as legal evidence.

LAMBRUSCHINI, LUIGI, an Italian prelate, born in Genoa, May 16, 1776, died in Rome, May 12, 1854. He entered in youth the order of Barnabites, and became successively bishop of Sabina, archbishop of Genoa, papal nuncio to France, and in 1831 cardinal. Gregory XVI. appointed him secretary of state for foreign affairs, librarian of the Vatican, grand prior of the order of Malta, and minister of public instruction. On the death of Gregory in 1846, he received on the first ballot for the successor the largest number of votes. Under Pius IX. he became member of the state council, bishop of Porto, and chancellor of the pontifical orders. On the outbreak of the political commotions he fled to Civita Vecchia, subsequently returned to Rome, fled again in Nov. 1848 to Naples, and soon after joined the pope at Gaëta. He returned with him to Rome in 1850, and counselled, it is said, milder measures than those adopted by Cardinal Antonelli. He wrote some devotional works and a polemical dissertation on the immaculate conception.

LAMENNAIS, HUGUES FÉLICITÉ ROBERT DE, a French author, successively an ultramontane Catholic and a revolutionary philosopher, born in St. Malo, June 19, 1782, died in Paris, Feb. 27, 1854. A native of Brittany, the ardent faith and impetuous energy which has always distinguished the Bretons were leading elements in his character. Châteaubriand was born in the same street 14 years before. His father, a wealthy ship-owner engaged in commerce, had been ennobled by Louis XVI. He was early abandoned to himself in consequence of the death of his mother, and the ruin with which the forced loan and Spanish captures threatened the fortune of his father. He lived almost in solitude, sometimes obtaining assistance in his studies from his elder brother Jean, till about his 12th year, when he was intrusted to the care of his uncle, who confined him day after day in his library. He was soon able to read

Plutarch and Livy, to admire Rousseau, and to dispute with the parish priest about religion. It is remarkable that the study of heterodox and philosophical works seemed only to increase his predisposition to religious fervor. In his 16th year he retired with his brother to La Chénaie, a residence two leagues from Dinan, where he reduced his studies and various reading to order, mastered Latin, Greek, Hebrew, and several modern languages, and acquainted himself with the church fathers, doctors, historians, and controversialists. He was 22 years of age before he made his first communion, and he adopted the ecclesiastical profession only after long hesitation. He received the tonsure in 1811, but was not ordained priest till 1816, and was then influenced rather by the counsels of his friends and the exaltation of his character than by his tastes. "Lamennais," says Renan, "had no known master; no institution can claim any part of his renown. His profoundly marked character of race and his ecclesiastical education, Brittany and the seminary, it was these alone that formed him and can explain him." He had already made (1807) a translation of an ascetic work by Louis de Blois, marked by the same intimate blending of unction and force which distinguishes his later writings; had published (1808) his *Réflexions sur l'état de l'église*, his first protest against religious indifference, and the reigning philosophical materialism, which was immediately seized and destroyed by the imperial police; and was engaged with his brother on the *Tradition de l'église sur l'institution des évêques* (3 vols., Paris, 1814), in which he confuted the Gallican tenet that the election of bishops is valid without the sanction of the holy see. After having been teacher of mathematics in the seminary of St. Malo, founded by his brother, he went in 1814 to Paris, where he lived modestly and unknown, and saluted the return of the Bourbons by an anathema against Napoleon, declaring that "to study the genius of Bonaparte in the institutions which he formed, was to sound the black depths of crime, and to seek the measure of human perversity." Therefore judging it prudent to leave France during the Hundred Days, he took refuge in the isle of Guernsey, where he passed several months under the name of Patrick Robertson. He went thence to London, and was employed in the French school of the abbé Carron. Returning to Paris in 1816, he entered the seminary of St. Sulpice, which he quickly exchanged for that of the Feuillantines, where, excepting short absences, he remained several years, having the society of priests and of noble Catholic and royalist women. At 34 years of age he received sacerdotal ordination from the bishop of Rennes, and in 1817 he published the first volume of his *Essai sur l'indifférence en matière de religion*. This was the fruit of constant labor during many years of trial and obscurity, and had an immediate effect throughout Europe. "The humble priest," says Lacordaire, "found him-

self invested with the power of Bossuet." Resuming in a more eloquent and commanding tone the work of Catholic restoration begun by De Maistre, De Bonald, and Châteaubriand, he aimed to oppose to Protestantism and philosophy a demonstration of Christianity, to maintain the principle of ecclesiastical authority and the absolutism of faith. This work was received at first only with admiration and enthusiasm, and the author became a principal collaborator in the *Conservateur*, a journal founded by Châteaubriand, Villèle, De Bonald, Fraysinoux, and others, which was chiefly directed against the ministry of Decazes. Though thus ranged among the defenders of the monarchy, he was more earnestly a Catholic than a royalist, and sought in the maintenance of the throne to secure guarantees for the stability of the church. The political hopes cherished concerning him were thus disappointed, and in 1820 he separated from his party with a portion of his colleagues, called the "incorruptibles," and vehemently assailed the ministry of Villèle in the *Drapeau blanc*, and afterward in the monthly *Mémorial Catholique*. It is affirmed that no writer displayed greater logical power and precision in the conflicts of that time. The first volume of his *Essai* was already suspected of innovating and dangerous consequences before the appearance of the second (1820), in which he rejected the Cartesian system, which gives authority to the individual reason, and developed a new theory of authority founded on the suffrages of mankind. He maintained that there is a sort of preestablished harmony between the doctrines of the church and the ideas of the race, that truth is attainable not only from revelation but from universal tradition, and thus sought to make the general consent of men the basis of an alliance between reason and faith. In the last two volumes (1824) he traced the transmission of truth through the ages, collected the scattered traditions of various peoples, and sought to demonstrate that Christianity alone possesses the double character of universality and perpetuity. The vast, though often incomplete and uncritical erudition shown in this work, its serious, brilliant, and imposing style, and its attempt to harmonize Catholicism with modern tendencies, make it the surest foundation of his reputation. It was unanimously and strongly opposed by the Sorbonne and the prelates, and was applauded only by a small body of ultramontane thinkers, who may be called his disciples. He wrote a short defence against the numerous attacks which were made upon it, and in 1824 went to Rome to present it to the pope. Though coldly received by the members of the sacred college, he found an admirer in Leo XII., who had his portrait in his oratory, called him the last father of the church, and offered him the dignity of cardinal, which he declined. On his return, after publishing a translation of the "Imitation of Christ," he produced his work entitled *De la religion, considérée dans ses rapports avec l'or-*

dre civil et Catholique (2 vols., Paris, 1825-'6), in which he attacked the declaration of 1682 which secured the liberties of the Gallican church, expounded a system of papal theocracy, and strove to establish the absolute spiritual supremacy of the holy see as the solution of the social problem. For this publication he was arraigned before the civil tribunal, and was condemned after an eloquent defence by Berryer. He himself at the close made a short address to the judges, terminating with the famous words: "I will let them see what a priest is." From this time, war was waged between Lamennais and the bishops of France. In the rigorous development of his principles he was obliged to found sovereignty in politics on the law of justice promulgated by the universal conscience of peoples, as he had founded it in philosophy on the universal tradition of the race. In his treatise *Des progrès de la révolution et de la guerre contre l'église* (1829) he first indicated his tendency toward political liberty while laying stress on theocratic absolutism. To combine democracy with the papal supremacy, liberal with Catholic ideas, became his avowed aim immediately after the revolution of 1830. He founded the journal *L'avenir*, having the significant motto: *Dieu et liberté—le pape et le peuple*, and was assisted by a corps of young and ardent disciples, among whom were Gerbet, De Salinis, Lacordaire, Rohrbacher, De Coux, and Montalembert. This remarkable publication went beyond the democratic party of the time in one set of its claims, and confronted the conservative party by another set. It pronounced the Gallican liberties to be a revolt against the church, and wished to subject all crowns to the tiara, as in the age of Gregory VII. It demanded administrative decentralization, extension of the electoral right, freedom of worship, universal and equal freedom of conscience, freedom of instruction, and the liberty of the press. Encouraged by a portion of the people and of the lower clergy, it was violently opposed by most of the prelates and Jesuits, who denounced it at Rome. While the contest was going on, the editors decided (Nov. 15, 1831) to suspend it for a time, and three of them, Lamennais, Lacordaire, and Montalembert, repaired to Rome to seek the papal approbation. No notice was taken of them on their arrival; Lamennais in vain sought a conference with the pope on the subject of his mission, and after waiting several months decided to return to France. He had gone as far as Munich, when he received the encyclical letter, dated Aug. 15, 1832, in which Gregory XVI. formally condemned the doctrines of *L'avenir*. His principal collaborators yielded at once to the decision; he himself announced that the journal would not again appear. A dogmatic submission was demanded from him, which he finally signed, reserving however to himself full liberty in regard to whatever he should believe for the interest of his country and of humanity. He

then retired to his patrimonial villa of La Chénale, and composed, it is said within a week, his *Paroles d'un croyant*, which was not published till 1884, after a year of meditation. From its appearance dates his final and definite rupture with the Roman Catholic church. It is marked by all the concentrated passion, the tenderness, piety, simplicity, and energy of his character. It has been called the most terrible revolutionary chant of modern times, and in different passages it recalls the "Imitation of Christ" or the ferocious pamphlets of the reign of terror. It was immediately translated into the different European languages, passed through more than 100 editions in a few years, and received the papal condemnation as a book "small in size, but immense in its perversity." Having now become an ultra revolutionist both in church and state, he published in 1886 the *Affaires de Rome*, written in a tone of moderation unusual to him, in which he seems to cast a last melancholy look upon the belief which he had abandoned. In the following year he began a journal, *Le monde*, in the interest of extreme democracy, which survived but a few months. He subsequently produced various political pamphlets, one of which, *Le pays et le gouvernement* (1840), caused his imprisonment for a year in Sainte Pélagie, where he was daily visited by numerous friends. Others of them were *Le livre du peuple*, *L'esclavage moderne*, and *Du passé et de l'avenir du peuple*. His *Esquisses d'une philosophie* (4 vols., 1841-'6) contains a system in many respects akin to Neo-Platonism. The portion devoted to æsthetics is especially interesting, in which he explains how the plan of the Christian temple has given rise in succession to all the arts—architecture, sculpture, painting, music, and poetry. As one of the chiefs and the ablest writer of the republican party, he took part in the revolution of 1848, and, after editing the *Peuple constituant*, a daily newspaper, for 4 months, was elected by an unusually large vote one of the representatives of Paris in the constituent assembly. He projected a constitution in accordance with his own theories, which was rejected by the committee as too radical and impracticable; and though he deemed it useless to present it to the assembly, he would consent to no modification. For 4 years he protested by his silent vote against the course of events. After the *coup d'état* of Dec. 2, 1851, perceiving the temporary failure of his labors for the cause of liberty as before for that of religion, he sought only in study a solace for the sadness which had become habitual to him, and was occupied in his last years with translating Dante. At the news of his dangerous illness, priests, Jesuits, and even ladies of the highest rank exerted themselves to obtain admission to his chamber to induce him to be reconciled to the church; but by his express prohibition no one was received except those connected with his family. His obsequies were performed amid an immense concourse of people, and in accordance with his will his body

was borne directly to the cemetery without being taken to any church; and no cross, nor even stone, marks the grave of a man who perhaps more than any other moved the passions of his contemporaries. He was both one of the ablest defenders and one of the ablest opponents of the papacy in the present century. The constant element in his speculations was an ideal of democracy, which he sought to realize, in the first part of his career, by allying the people and the pope against the civil monarchy, and in the second part, by exalting the people to supremacy in defiance alike of the pope and the civil monarchy. The constant element in his character was an unbounded and lofty impetuosity, which demanded some absolute thesis either to support or assail. Circumstances made him successively the advocate of opposite parties, but the party which he uniformly detested was that of moderation. "He was," says Renan, "neither a politician, nor a philosopher, nor a savant; he was an admirable poet, obeying a severe and always irritated muse." He initiated and gave life to the ultramontane movement, which, after being the object of his most ardent devotion, prevailed in the church of France in spite of his efforts and with his maledictions. That he was a superior literary artist, and that his writings are admirable for elevation and force, is confessed even by those who esteem him a mediocre philosopher and a mad politician.—His complete works have been twice collected (12 vols., 1836-'37; and 11 vols., 1844 *et seq.*). His posthumous works are published under the care of Émile Forques (1856 *et seq.*).

LAMETTRIE, JULIEN OFFRAY DE, a French physician and philosopher, born in St. Malo, Dec. 25, 1709, died in Berlin, Nov. 11, 1751. He was the son of a rich merchant, received a liberal education, and was destined for sacred orders; but he preferred to devote himself to medicine. In 1738 he went to Leyden, where he placed himself under the direction of Boerhaave, several of whose works he translated into French. Returning to Paris, he was appointed physician to the *gardes Françaises*, followed that regiment to Germany, and witnessed the battles of Dettingen and Fontenoy. In 1745 he published his *Histoire naturelle de l'âme*, in which he denied the immateriality of the human soul, and placed man among the animals of the ape genus. In consequence of this he lost his office, and the following year, having issued his *Politique du médecin de Machiavel, ou le chemin de la fortune ouvert aux médecins*, a libellous attack upon his medical colleagues, he was obliged to fly to Holland. There he wrote and printed his noted atheistical work, *L'homme-machine* (12mo., Leyden, 1748), which was publicly burned by order of the authorities. Expelled from Holland, he was invited to Berlin by Frederic the Great, who made him his reader and a member of his academy. He lived on terms of familiarity with the king, and published several works of a similar tendency to his previous writings; among them were *L'homme-*

plants (Potsdam, 1748), *Réflexions sur l'origine des animaux* (Berlin, 1750), and *Vénus métaphysique, ou essai sur l'origine de l'âme humaine* (Berlin, 1752). He died of indigestion, caused by high living. Frederic wrote his eulogy.

LAMMAS DAY, in the calendar, the 1st day of August, so called perhaps from the custom which formerly prevailed among the tenants who held lands of the cathedral church in York, England, of bringing a live lamb into the church at high mass on that day. Some antiquaries derive the term from a Saxon word signifying loaf mass or bread mass, which was a feast of thanksgiving to God for the first fruits of the harvest; and Dr. Johnson thinks it is a corruption of "latter math," meaning a second mowing of the grass. Vallancey, in his *Collectanea de Rebus Hibernicis*, mentions that the 1st of August, Laithmas (pronounced La-ee-mas), was celebrated by the druids as the day of the oblation of grain.

LAMMERGEYER (Germ. *Lämmer*, lambs, and *Geier*, vulture), or BEARDED VULTURE (*Gypætus barbatus*, Cuv.), the largest of European birds of prey. It is about 4 feet long and 9 or 10 feet in extent of wings; the head and neck are completely clothed with feathers, and the cere is entirely hidden by projecting bristles; the bill is long and strong, straight, laterally compressed, with the tip curved and sharp; a tuft of stiff bristles projects forward like a beard from the base of the lower mandible; the wings are long, the 2d and 8d quills nearly equal and longest; tail lengthened and wedge-shaped; tarsi short and covered with feathers; toes moderate, the anterior ones united at the base by a membrane; claws curved, especially those of the inner and hind toes, and not well adapted for seizing and destroying prey. In the adult, the upper part of the head, the neck, and the under parts are whitish tinged with orange, deepest on the breast; the wings and tail are grayish black, the wing coverts dashed with orange white; the back deep brown; the beard and space including the eye and cere black; bill horn-colored. There is only one well characterized species, which inhabits the mountains of Europe, Asia, and northern Africa, especially the Alps and Pyrénées. Lammergeyers are seen usually in pairs; they feed on lambs, goats, chamois, &c., which they attack in such a manner as to cause them to leap over precipices, when they descend and devour the mangled carcasses; they also eat carrion. The nest is made upon inaccessible rocks, rarely upon lofty trees, several feet in diameter and of coarse materials, and the number of eggs is 2 or 3. This bird plays the same part in the old world as the condor does in the new, and is very destructive to the flocks of the Alpine valleys; its strength and boldness are such that it might very well attack man, and stories are numerous, though not well authenticated, of its having carried off children. It is probable that the fabulous *roc* of oriental tales originated in some eastern variety of this large vulture. In its predatory habits and its

attacks on living animals, and its general refusal of carrion, it resembles the eagles; it is not abundant anywhere, and is rarely seen in Europe north of Germany. The African bird (*G. meridionalis*, Brehm.), and the Asiatic (*G. Himalayanus*, Hutt.), are probably only varieties of the bearded vulture.

LAMOILLE, a N. co. of Vt., drained by Lamoille river; area, 420 sq. m.; pop. in 1850, 10,872. The surface is hilly, the Green mountains traversing the county in a N. E. and S. W. direction. There is some excellent soil in the valleys, but the land is chiefly adapted to grazing. The productions in 1850 were 66,017 bushels of Indian corn, 278,252 of potatoes, 26,973 tons of hay, 437,110 lbs. of butter, and 427,918 of maple sugar. There were 5 grist mills, 8 saw mills, 4 woollen factories, 10 starch factories, 6 tanneries, 17 churches, and 4,344 pupils attending public schools. Capital, Hyde Park.

LAMORICIÈRE, CHRISTOPHE LÉON LOUIS JUHAULT DE, a French general, born in Nantes, Feb. 6, 1806. He is descended from an old legitimist family, and was educated at the college of Nantes, at the polytechnic school of Paris, and at the academy for military engineers of Metz, on leaving which he joined the Algerian army and entered the corps of Zouaves at the time of its formation (Nov. 1830). Placed in 1838 at the head of the office (*bureau Arabe*) organized by Gen. Avizard for the purpose of facilitating the relations with the native population, his intercourse with the Arabs became as useful to him as it was agreeable to them. Depending solely upon the influence of kindness and affability, he carried about his person in his exploration of the country no other means of defence than a light cane; hence the name of *Bou Arroua* or father of the cane conferred upon him by the Arabs. He took an active part in the capture of Constantine, the expedition against Mascara, the battle of Isly, and many other engagements. He commanded the Zouaves for several years until June, 1840, when he was succeeded by Cavaignac. The celebrity of the Zouaves was chiefly due to the skill which from the beginning Lamoricière had brought to bear upon their organization. In Nov. 1845, on the departure of Gen. Bugeaud, he became provisional governor-general of Algeria, but went to France in 1846, in the hope of being able to exert a favorable influence upon the destiny of the African colony by taking a part in the parliamentary discussions on the subject. At first defeated as candidate for one of the arrondissements of Paris, he was elected to the chamber in Oct. 1846, as member for St. Calais, Sarthe. Returning to Algeria soon after, he crowned his military career by organizing the expedition against Abd el Kader which finished the war. He was reelected to the chamber of deputies in 1847, and when the revolution of Feb. 1848 broke out, he exerted himself in favor of the formation of a new administration under Louis Philippe, and as colonel of the national guard.

went among the people assembled on the Boulevards in order to allay the public excitement. But he was not listened to, and after the abdication of Louis Philippe he was slightly wounded while on his way to the Palais Royal to proclaim the regency of the duchess of Orleans. He soon recovered, however, and on the same evening tendered his allegiance to the provisional government. He took his seat in the constituent assembly as a member for Sarthe, and became prominent in the committee on military affairs. During the bloody days of June, 1848, he fought with so much spirit against the insurgents, that three horses were killed under him. He officiated as Gen. Cavagnac's minister of war until Dec. 1848, and was instrumental in introducing various measures for the benefit of Algeria. He strenuously opposed the election of Louis Napoleon to the presidency, and even questioned his right to citizenship. Being elected to the legislative assembly, he became president of the constitutional committee, and opposed the projects of the ultra radical party. In the course of the Hungarian struggle with Austria, he was intrusted with a diplomatic mission to Russia; but on his arrival there the Hungarians had already been crushed by the armed interference of the czar. On hearing of the overthrow of Odilon Barrot's administration (Oct. 31, 1849), he returned to France and resumed his seat in the legislative assembly. After the *coup d'état* of Dec. 2, 1851, he was arrested and detained in the fortress of Ham until Jan. 9, 1852, when he was permitted to go to Prussia. A letter of his, refusing to recognize the government of Louis Napoleon, was published in May, 1852. He afterward successively resided in Coblenz, Mentz, Wiesbaden and Ems. In April, 1860, having gone to Rome for the purpose, he was appointed by Pope Pius IX. commander-in-chief of the papal troops.

LAMOTTE, JEANNE DE LUZ, DE ST. REMY, DE VALOIS, countess de, a French adventuress notorious for her part in the intrigue known as the "affair of the diamond necklace," born at Fontète, Champagne, July 22, 1756, died in London, Aug. 23, 1791. She traced her origin to the baron de St. Remy, a natural son of Henry II., and in consequence of this received a small allowance from the court. After marrying a count de Lamotte, who was a spendthrift, she repaired to Paris, and succeeded in being introduced to Marie Antoinette, who took some interest in her, and to Cardinal de Rohan, grand almoner to the king. She persuaded Rohan that she could conciliate for him the affection of the queen, whom he professed to love devotedly, but who disliked him; and she even induced a Mlle. d'Oliva, who bore some resemblance to Marie Antoinette, to personate her majesty at a midnight interview with Rohan in the gardens of Versailles. The countess told him that the queen was desirous of getting a magnificent diamond necklace, then in the hands of the court jewellers and that the purchase of this ornament,

which was worth about \$350,000, would do much toward winning the queen's heart. The cardinal confiding in her representations, put himself entirely in her hands. She succeeded in getting possession of the necklace, which she pretended she had delivered to the queen, and for several months kept the robbery concealed by producing forged notes apparently written by the latter. But finally a direct application of the jewellers to her majesty awoke suspicion and brought on a judicial investigation, which resulted in a public trial before the parliament. The countess and her unsuspecting accomplice were incarcerated in the Bastille. All France became deeply interested in this intricate affair, in which the most infamous aspersions were thrown on the character of the queen. The verdict, rendered in 1785, left her entire innocence questionable in the eyes of many. The cardinal was discharged from all accusation, while the countess of Lamotte, who swore to the last that she was but a victim, was sentenced to be whipped, branded on the shoulder, and imprisoned for life. Her corporal punishment, owing to her desperate resistance, was one of the most dreadful scenes on record. After being incarcerated about two years at the Salpêtrière, she escaped, June 5, 1787, and fled to London, where she published libels against the queen. Her husband survived her, and twice wrote a complete history of the whole affair of the necklace; the first manuscript was taken from him by the French police; the second was mutilated in its most important parts. This mutilated manuscript was printed in 1858, under the supervision of L. Lacour, with the title: *Affaire du collier; Mémoires inédites du comte de Lamotte-Valois sur sa vie et son époque*. The best account of the affair and its political bearings is to be found in Louis Blanc's *Histoire de la révolution Française*.

LA MOTTE FOUQUÉ. See FOUQUÉ.

LAMP, a vessel employed for producing light, and sometimes also heat, by the combustion of inflammable fluids, grease, or wax. The simple form of these contrivances adopted by the ancient Hebrews has continued in use down to the present day; and until near the close of the last century this had hardly been improved upon among the most civilized nations. Even on the American continent may still be seen among the Canadian French the same low oval metallic vessel that was used by the ancient orientals and Europeans, furnished with a handle at one end and a beak at the other, through a hole on the upper surface of which projects the wick from the reservoir of oil or grease below. Some are made to be carried in the hand and placed upon tables, and others are kept suspended by chains in the middle of rooms. They give a dim smoky light, in consequence of the carbonaceous matter not being sufficiently spread by an open wick to be reached by the oxygen of the air before it is dissipated in sooty vapor. (See COMBUSTION, and FLAME.) The external form of the lamp was

more of a study to the ancients than the principles of combustion. They gave to it the most graceful outlines, and ornamented it with grotesque figures and fanciful designs which were often of great beauty. They suspended their lamps from the ceiling or from the hands of ornamental figures of boys or men, or they were placed upon stands. As at the present day in Aleppo and Egypt, they were kept by the Hebrews burning all night; and to this much importance was attached, the putting out of the light being significant of the extinction of the family and desertion of the house. Hence the frequent use of such phrases in the Scriptures, especially in Job and the Proverbs, as "The lamp of the wicked shall be put out;" and of the prudent wife, "Her candle goeth not out by night."—The first improvement in the construction of lamps was removing the beak by a long neck to a distance from the reservoir of oil, thus reducing the width of the shadow cast by the lamp. Beside this object, it was soon found by those who investigated the matter, that the following were subjects for improvement: 1, the wick, which as used presented a bundle of fibres, the inner portion of which, though saturated with oil, was removed from the reach of the air required for its combustion; 2, the level of the surface of the oil, that from first to last it should bear the same relation to the level of the burning part of the wick, thus securing uniformity in the supply of oil for combustion; and 3, the concentration of the light by reflectors at points where it is wanted. The wick was first improved and much used in the countries bordering on the Rhine by plating its fibres together to make it flat and ribbon-like. A flat socket was provided for it, and it was made to move up and down by a horizontal spindle and toothed wheel, which could be turned by the fingers as required. This was known as the Worms lamp, and it has of late years been introduced into New England. A greater improvement was that of the Argand burner, in which the wick was made in the form of a hollow cylinder, and so arranged that a current of air could pass up within it, as well as come to its external surface. The addition of a chimney of sheet iron, as originally made by Argand, by producing an upward draught increased the supply of air. (See ARGAND LAMP.) The effect of the chimney was afterward much increased by contracting its upper portion and forming a shoulder, against which the ascending current impinged, and is turned inward upon the flame. The so called astral lamps were provided with these wicks, and the reservoir for the oil was arranged in the form of a hollow ring encircling the hollow central stand that supported the burner, and with which it was connected by one of the tubular braces that held it up. Thus the level of the oil in the shallow ring could not undergo much change, and it continued very nearly the same as that of the burning part of the wick until it was almost exhausted. In consequence of the thin and pe-

culiar shape given to the ring the lamp cast no shadow at a little distance off, and a vase of ground glass surrounding the flame served to render the light still more diffusive or scattered. One form of it was hence styled the *sinumbra* lamp (Lat. *sine umbra*, without shade). In this lamp was first introduced the contrivance for moving the wick up or down by causing the hollow metallic cylinder that carries it to travel round another in which is a spiral slot; a fixed pin projecting from the outer cylinder into this slot causes the cylinder to be lifted or depressed according to the direction of the revolution. Many other forms of lamp were also contrived with special reference to reducing the shadow. In some the reservoir was supported on one side of an upright rod, and partially counterbalanced by the burner, chimney, shade, &c., on the other side. The shadow of the lamp would thus fall only in one direction, and this might be against the wall. The reservoir was also placed considerably above the level of the burner, so that the shadow should be directed upward; or considerably below this level, so that it should fall upon the table; and ingenious mechanical devices were introduced, in the one case to regulate the downward flow of the oil, and in the other to raise it to the burner. The more perfect were these devices the more expensive were the lamps; and the simpler astral lamps for many years continued to be generally preferred as the most convenient and easily kept in order. In the year 1800 Carcel devised an ingenious piece of clock-work machinery for pumping the oil from a reservoir at the foot of the lamp up to the burner, and thus supplying this always from the same point, while the excess of oil flowed back into the reservoir. This being at the base of the stand and the flame at the top, there was consequently no shadow. The lamp, afterward slightly improved by other manufacturers, was in many respects the most perfect of these contrivances; but its great cost restricted its use to the wealthy. It was moreover so inconveniently large and heavy, that it could be moved only with difficulty; and the complicated nature of its mechanism required access to skilful workmen, such as can be found only in large cities, to keep it in repair. Vases or globes of ground glass, such as were first applied to the *sinumbra* lamp, were found necessary in all the large lamps with brilliant flames to reduce the dazzling effect of the light, by causing the rays to cross each other in every direction, as they pass through the glass, which appears to the eye as if it were itself their central source. And in order to economize the light, and direct the chief portion of it only where it is required, reflectors of metal were contrived, some approaching a parabolic form, with surface brightly polished, for turning the light back into the room in parallel rays, which would otherwise be wasted upon the wall; and others of conical shape, to be suspended over the flame, their inner surface whitened to prevent absorption of the light, and their sides inclined,

at least in those constructed with reference to the most useful effect, at an angle of 60°. The most perfect reflectors are those described in the article *FRESNEL*. The attention directed in the early part of the present century to the subject of producing artificial light by convenient and efficient methods caused many more forms of lamps to be introduced than can here be named. Some were designed to burn the crude whale oil, which on account of its viscosity requires to be heated before it can pass along the fibres of the wick. Parker's hot oil or economic lamp was especially adapted for this use. The reservoir was a double cylinder of metal surrounding the upper portion of the chimney, which was also of metal, the lower part being of glass. It was supported by a side arm, which was made hollow to convey the oil to the burner below. A paper shade served to conceal the apparatus above the flame, and also to reflect the light downward. This lamp is very highly commended by Dr. Ure for its illuminating power and economy. The lamps of Benkler, constructed in Wiesbaden in 1840, introduced a peculiar contrivance in the form of the burner, which caused the draught of air to impinge at an angle upon the flame, making the combustion more vivid and the light more brilliant. It rendered practicable the use of poor qualities of oil, such as in other lamps were very imperfectly consumed, and only with the production of much smoke and disagreeable smell. The so called solar lamps, first made by Mr. Smith in Birmingham, depended on this principle; and it was essential to the excellent solar lamps made by Cornelius of Philadelphia, which, by means of a metallic cylinder passing from the burner down into the reservoir, permitted the use of lard instead of oil, sufficient heat being conveyed from the flame to keep it in a melted state. The solar lamps, on account of the cheap materials they consume, have been very extensively used; but they require particular care to keep them clean. The wick must be frequently changed, and always freshly trimmed with every using; and the reservoir also must be freshly filled at the same time. A report of comparative experiments made in 1844 for the U. S. treasury department with the solar lard lamp, an Argand burner for rosin gas, and an Argand oil lamp such as was used in the lighthouses, by Prof. Walter R. Johnson and others, is contained in "Senate Document No. 166," 28th congress, 2d session. The results are also given in the American edition of Knapp's "Chemical Technology" (1848), vol. i. p. 212. This work contains also much information respecting the various sorts of lamps and their comparative advantages. The results of the comparative trials referred to were, that from the same weights of the materials employed, the quantity of light afforded by lard was represented by the figures 1068; by rosin gas, of specific gravity 0.8098, "or 43 per cent. superior in density to coal gas," by 956; and by sperm oil ($\frac{1}{4}$ summer and $\frac{1}{4}$ winter strained) by 711. Lard being estimated to cost

5.8 cents per lb., oil 91.6 cents per gallon, and rosin 65.8 cents per barrel of 800 lbs., the relative cost was calculated as follows: lard 81.9, rosin gas 86.8, oil 100.—The forms of lamp so far noticed are not adapted for being carried about in the hand, and their advantageous qualities depend on their being employed for several persons together. Little progress has been made in the production of economical, safe, and convenient small lamps. The vapor lamps, made for burning the vapors arising from a mixture of oil of turpentine and alcohol, which is kept sufficiently heated by a metallic tube passing down into the mixture from the flame, promised to meet this want; but they proved expensive in use, and not altogether free from danger and the offensive smoke and smell of burning turpentine. Similar lamps are in use for burning the volatile hydrocarbons obtained from the products of the distillation of bituminous coals. To these succeeded a variety of so called camphene lamps, some account of which has been given in the article *BURNING FLUID*. For the economy and convenience attending their use they are very generally employed, although for years past some fatal accident has been almost daily chronicled resulting from the explosion of the dangerous fluid. The oils obtained by distillation of bituminous coals are introducing new forms of lamps adapted to their use, and it is believed that these present all the advantages of cheapness, portability, and brilliancy of light that distinguish the camphene lamps, while their entire safety gives to them a preference which must cause the use of the latter to be entirely abandoned. A multitude of burners have been contrived for these lamps, all made with reference to effecting the most thorough combustion of the oil. One of these in very general use has a flat wick $\frac{1}{2}$ of an inch broad, which is moved up and down by a horizontal spindle. The wick tube is set in a hollow cap of thin brass, which screws tightly upon the top of the lamp, and on each side of the tube is an aperture which extends down through the hollow cap into the lamp, so that any vapor arising from the oil can pass up to the wick. There are also apertures for admitting air into the cap, allowing it to mix with the volatile vapors. Over the cap is fitted tightly a brass ring or cylindrical piece perforated all around with holes to let in air to the wick; and this ring carries a dome-shaped cover of thin brass in the top of which is a slit or elongated opening a little larger than the wick and directly over it, through which the flame passes up. The dome being of smaller diameter than the ring, there is room outside of it for the base of a glass chimney to stand, and this is moreover supported outside by the extension upward of the brass cylinder. Another row of holes perforated at the base of this extension lets in air, which passes under the foot of the glass, and circulates up the outside of the dome, meeting the flame at the top. The dome with its opening is somewhat like the peculiar arrangement

in the solar lamp. The chimney is enlarged immediately above the flame, and is then contracted to the same diameter as below.—Lamps in chemical operations answer the purpose of small furnaces. They are made in a great variety of forms, adapted to special uses and the kinds of fuel employed. Some are oil lamps designed for the use of the blowpipe, and are furnished with a broad flat wick convenient for this purpose. Others are designed to consume alcohol; and these are either plain vessels, commonly of glass, furnished with a metallic tube for holding the wick and a closely fitting bell-shaped cover of glass for protecting the alcohol from evaporation when the lamp is not in use; or they are more elaborately constructed of metal, provided with an Argand burner, and made to slide upon an upright rod. This rod also supports movable rings adapted for holding crucibles and other vessels over the flame of the lamp. The heat is concentrated by the use of a metallic chimney; and in some lamps it can be intensified by propelling a current of air of annular form and concentric with the Argand burner, so directed as to impinge across the flame. Alcohol is preferred to oil for the reason that its flame leaves no sooty deposit upon the surfaces it touches, the effect of which is to cause the radiation of a considerable portion of heat. Illuminating gas, where it is available, is advantageously substituted for both oil and alcohol; and numerous devices are employed for obtaining from this either the greatest intensity of heat by the introduction of a current of air into the jet, or a disseminated heat by its diffusion over large surfaces. (See end of article BLOWPIPE, and GAS, as fuel.)—SAFETY LAMPS. In the article COLLIERY mention is made of explosions which occasionally occur in coal mines, and of the necessity of guarding against them by the use of safety lamps. Contrivances called steel mills were first used to give light in dangerous parts of the mines, a succession of sparks being constantly elicited by the rapid revolution of little wheels of steel against pieces of flint. In an explosive mixture of gas and air these however were not safe, as the sparks were liable to produce explosion. Their greatly increased brilliancy in this served to indicate danger; and where the gas predominated above the explosive proportion the sparks were of blood-red color or ceased entirely to be emitted. The necessity of more efficient protection led to the invention in 1818, by Dr. W. R. Clanny of Sunderland, Durham, of the first true safety lamp. In this the communication with the external air was intercepted by water, through which the air was made to pass. This apparatus proved too cumbersome for general use. In 1815 Mr. George Stephenson and Sir Humphry Davy both invented safety lamps on other principles. The former, noticing the effect of the gaseous products of combustion to extinguish the burning jets of inflammable gas called blowers, which issue from the crevices of coal mines, contrived a lamp which was protected

by a glass cylinder, and covered at top with a perforated metallic cap to allow the products of combustion to pass out. The air to support combustion was admitted through small openings in the bottom, and it was supposed that the velocity of the current entering the lamp would prevent the explosion passing backward; but the protection the lamp afforded was really owing to the smallness of the apertures, continued through capillary tubes till they discharged all around and close against the circular burner. Davy's lamp, commonly known as the Davy, has already been noticed in the article on that distinguished chemist. The wire gauze cylinder, through which the air was admitted, served also for the passage of the light, and when composed of wire of $\frac{1}{16}$ to $\frac{1}{8}$ of an inch in diameter, and with 28 wires or 784 apertures to the inch, proved a perfect obstruction to the flame in the most explosive mixtures, unless these were blown in currents through the gauze, or the lamp was carried rapidly through the gas. The wires might even be heated red hot, as sometimes happens in very foul air by the flame leaving the wick and burning in the upper part of the cylinder, and no explosion take place; but if a glass cover became hot it might be broken by drops of water falling upon it; and so fragile a material under any circumstances could not be regarded as a sure protection. Among the various modifications of the Davy are lamps provided with a cylinder of glass which is protected with an outer one of wire gauze, thus combining the advantages of both. The Olanny lamp has a lower cylinder of stout glass, upon the top of which is a smaller one of wire gauze. The glass in this case is for the sake of its allowing a greater quantity of light to pass than the wire gauze. Others have been made with two glass cylinders, one within the other, with a space between them for the passage of air from the top down, passing through wire gauze at the top and again at the bottom as it entered the lamp. The outer cylinder, being protected from the heat by its separation from the flame and by the cold air passing through, is not liable to be broken by the dropping of water upon it; and if by any accident it should be broken, the inner one, if it escaped injury, would still serve for a temporary protection. The most perfect of the safety lamps are provided with the Argand burner and a glass shade within the wire gauze. The common Davy has the ordinary cotton wick in the round tube, and a wire passing through the bottom of the lamp is so bent within and without, that it can be used to snuff the wick and to push it up or down.

LAMPASAS, a central co. of Texas, formed in 1856, bounded W. by the Colorado river and drained by the Lampasas; area, 910 sq. m.; pop. in 1858, 1,196, of whom 136 were slaves. The surface is much broken and the soil is fertile. Cotton, oats, rye, millet, and the Chinese sugar cane are found to thrive, and much of the land is well adapted to grazing.

LAMPBLACK, a sooty substance deposited

in the combustion of vegetable matters. It forms when the flame is chilled by the introduction within it of a cold body, the effect of which is to check the conversion of the fine particles of carbon into carbonic acid, and cause them to gather in visible masses upon the cold surface; it is also collected upon the walls of flues and chambers arranged for the passage of the volatile products of combustion that arise from fires fed with insufficient air. It consists of finely divided carbon, more or less mixed with the various compounds into which the elements of vegetable substances resolve themselves when submitted to the process of destructive distillation. It is consequently of very variable composition, and possesses different qualities according to the different conditions, as to distance from the fire, amount of air admitted, &c., as well as according to the kind of combustible matters employed. Wood deposits on the walls near the fire a glistening varnish-like substance of blackish brown color, which contains dried tar with a little charcoal. This is called glance-black, and is the portion of the carbonaceous deposit which is used for the preparation of bistre, and for the preservation of meats. The soot collected further from the fire contains much more carbon, and is known as flake-black. The resins, fats, and oils give a product rich in carbon with little tarry matter. That collected far from the fire is a dark pitch-black substance, much used as a pigment in the preparation of dark colors. It is the coloring matter of printers' ink, and is an essential ingredient in shoe blacking and numerous similar preparations. The finest quality of it used formerly to be collected by the combustion of refuse oils in lamps, whence the name lampblack. It may be obtained in its greatest purity by passing oil or alcohol through tubes in a state of ignition. An impalpable powder is deposited, having neither taste nor smell, a conductor of electricity, and more than twice as heavy as water.—Various sorts of apparatus are in use for collecting lampblack. By the German process refuse resinous substances, as pine leaves, branches, chips, &c., are burned in ovens with the least possible quantity of air, and the smoke is conveyed in a low horizontal flue about 15 feet long to a chamber of the capacity of from 2,000 to 3,000 cubic feet. This has a pyramidal or conical shaped roof of some woollen stuff of loose texture or of sheet iron, which can be lowered down into the chamber, scraping its walls as it descends. The smoke passing slowly through the flue and the chamber leaves in the former the cruder product, and in the chamber upon its walls and in the hood the finer quality. This is frequently shaken down, especially from the woollen covering, the pores of which otherwise become filled, obstructing the draught. The freshly deposited lampblack is liable to ignite spontaneously on exposure to the air. By the English method the smoke is passed through a series of bags, arranged vertically side by side, in which the lampblack is already assorted as

to quality in collecting. The impure sorts, which are injured by the empyreumatic resins they contain, are purified by igniting them in close vessels with access of very little air. The whole becomes red hot, and the tarry and ammoniacal matters with a small portion of the lampblack are consumed. Coal tar and bituminous coal are used for the production of inferior qualities of lampblack.

LAMPREY, a cyclostome or marsipobranch fish of the family *petromyzonini* (*hyperoartia*, Müller), and genus *petromyzon* (Linn.). This order, with the myxinoids, constitutes the class of myzonts of Agassiz. The blood is red, the heart distinct, the branchial artery without a bulb and furnished at the base with 2 valves; the body smooth, cylindrical, and vermiform, mouth anterior, gills fixed, and eyes distinct; the single olfactory cavity opens above by an external foramen, leading to a blind canal not communicating with the mouth through a perforated palate as in the myxinoids; thorax cartilaginous, sustaining the branchial apparatus composed of rib-like strips descending on each side beneath the skin, with 7 external spiracles, opening from the fauces into a sub-cesophageal tube, having a posterior caecal extremity. These are the first fishes in which there is a distinct brain enclosed in a cartilaginous cranium; there are 2 dorsal fins, the posterior joined with the caudal, and mere folds of skin with scarcely perceptible rudimentary rays; pectorals and ventrals absent; the cephalic cartilage is undivided; there is a spout hole in the head, and a spiral valve in the intestine; there is no oviduct nor seminal duct. The jaws are absent, but the circular mouth, tongue, and pharynx are armed with conical or crescentic sharp teeth of indurated albumen. The gills are 7 little fixed bags, each having its proper artery, its opening into the sub-cesophageal tube, and its external foramen by which the water passes out.—The old genus *petromyzon* has been subdivided into 6, according to the shape and arrangement of the teeth. The common European lamprey, or lamprey eel as it is often called (*P. marinus*, Linn.), attains a length of more than 8 feet; the color is yellowish marbled with brown. Having no air bladder and being destitute of lateral fins, they are usually found near the bottom, and to avoid being carried away by the currents they attach themselves to stones by means of the tongue, which acts like a sucking piston in the circular mouth, whence the names of *petromyzon* and cyclostomes; in the same manner they attach themselves to larger fishes, which they devour; by means of the apparatus above described respiration may be carried on independently of the mouth, the branchial currents passing from one series of openings to the other across the sub-cesophageal tube. The intestine is small and nearly straight; the eggs are laid late in the spring, the milt and roe escaping by a membranous sheath communicating with the abdominal cavity. They ascend rivers from the sea to spawn. They are very gen-

erally distributed in Europe from the Mediterranean to the arctic waters, ascending the rivers in spring; at this season great numbers are caught, their flesh being considered a delicacy. The food of the lamprey consists of any soft animal matter, especially the flesh of fishes to which they attach themselves. The river lamprey or lampern (*P. fluviatilis*, Linn.) is a smaller fish, and confined to fresh or brackish water; the length is from 12 to 18 inches, and the color bluish olive above and silvery below. Great numbers were formerly caught in the Thames, Severn, &c., and sold to the Dutch for bait in the turbot fishery. This and the preceding species are very tenacious of life, living several days out of water. The fringed-lipped lamprey (*P. Planeri*, Bloch) is about 10 inches long, stout, with the circular lip margined with small cirri, and the 2 dorsals nearly united; it is found in the rivers of Europe. The *P. mordax*, of Australia, has the dorsals widely separated.—The most common of the American species is the *P. Americanus* (Lesueur), growing about 2½ feet long; the color is olive brown above, with blackish brown confluent patches, and beneath uniform dull brown. This is not uncommon in the rivers of New England and New York, especially near their mouths; it likes best shallow rapid streams with pebbly bottoms, in which it builds circular nests 3 or 4 feet in diameter and a foot or two high, bringing stones in the mouth varying from the size of a hen's egg to that of the fist. They ascend high falls by clinging to the rocks, after suddenly darting forward; though uncommon in rivers obstructed by dams, they are abundant at their outlets, especially in the Merrimack near Lowell. Several other species are described in Dr. Storer's "Synopsis of the Fishes of North America."—The genus *ammocoetes* (Duméril) should be here mentioned. It has the same cylindrical body, branchial apertures, and fins as the lampreys; the mouth is semi-circular, without teeth, the posterior lip transverse, and ciliated within; the branchial apertures open internally into the oesophagus itself; the incomplete circle of the mouth prevents its adhering to rocks and other bodies; the external branchial openings are placed in a longitudinal furrow. It is often called mud lamprey, from its being found in the mud and sand. The best known species in Europe is *A. branchialis* (Ouv.), 6 or 7 inches long, about as thick as a goose quill, generally of a yellowish brown color above, darker on the head and back, lighter beneath; the eyes are very small; it spawns at the end of April, and feeds upon worms, insects, and dead matter, living in fresh water in many countries of Europe. Another species is the *A. borealis* (Ag.). Dr. Storer describes 8 species as occurring in North America, the *A. bicolor* (Lesueur), *A. concolor* (Kirtland), and *A. unicolor* (De Kay). From its resemblance to the lamprey, *ammocoetes* was called *petromyzon* by the early writers. Aug. Müller (Müller's *Archiv*, 1856) maintains that *ammocoetes* is the larval form of *petromyzon*, and does not attain the

perfect state until the 4th year from the egg; subsequent observations confirm this view, which, if true, is a remarkable instance of partial metamorphosis in fish, and shows upon what transitory characters genera may be founded. According to Van der Hoeven, the cleavage of the yolk is entire, and in the first stage of development there is much analogy with that of the frog.

LAMPSACUS, or LAMPSACUM, a Greek city of Mysia in Asia Minor, situated on the Hellespont near where it expands into the Propontis. Its original name had been Pitynsa, but being colonized at an early period by Ionians from Phocæa and Miletus, they called it Lampsacus. It had an excellent harbor, and became a place of extensive commerce. Miltiades, the son of Cypselus, who had established himself in the Thracian Chersonesus, made war on the Lampsacenes, but was surprised and taken prisoner by them. Croesus however espousing his cause, they restored him to freedom. After the rise of the Persian power, Lampsacus became subject to it. On the overthrow of the Persians at Mycale Lampsacus joined the Athenian confederacy, but it afterward revolted when intelligence arrived of the destruction of the Athenian armament and army in Sicily. It was however reduced by Strombichides, and remained dependent on Athens till the time of Alexander, when it was absorbed in the Macedonian, and subsequently in the Roman dominions. In the age of Strabo it was still a place of importance. Charon the historian, Anaximenes the rhetorician, and Metrodorus the philosopher, were natives of Lampsacus, which was also a chief seat of the worship of Priapus. Its territory was famous for wine. The name of Lampsacus is still preserved in that of Lamsaki, a small village near the probable site of the ancient city, of which no trace now remains.

LANARK, the county town of Lanarkshire, Scotland, situated on the river Clyde, 656 feet above the sea, 25 m. S. E. from Glasgow, and 81 S. W. from Edinburgh; pop. in 1851, 5,005. Its inhabitants are employed chiefly in hand loom weaving for the Glasgow and Paisley manufacturers. Shoes are also made. There are several breweries and flour mills.—About 1 m. S. is the manufacturing village of New LANARK, on the Clyde; pop. in 1851, 1,642. This village owes its origin to David Dale, who erected a cotton factory there toward the end of the 18th century. He was succeeded in the management by his son-in-law, Robert Owen, who in 1815 attempted an economical experiment among the work people. They numbered about 2,500, and were under his control until 1827, when he retired from the management of the works. A French writer who visited New Lanark thus described it in Owen's day: "The houses of the colony are of a simple but elegant structure; some contain a number of chambers, or small apartments, for one or two workmen or for a family; others in their upper stories have magazines of provisions of every description;

and in the lower parts are shops open at certain hours of the day, where each workman or family may obtain credit till it reaches the amount of the sum due for a month's labor; and in case of the birth of a child, illness, &c., additional advances are made. Beside 2 vast buildings for the workmen, and the large detached house which serves for a magazine, there are 8 others: first a manufactory 6 stories high; then a fine edifice with a spacious court before it for the children, with halls of instruction, exercise, and prayer. A little further on, close to a canal that communicates with the Clyde, there is a common kitchen and refectory for the unmarried workmen. The infirmary, under the care of a physician and a surgeon, has but 38 patients, out of 2,800 persons, including 850 children, of whom the colony consists." After stating other employments of the community, the writer adds: "The employment of time is measured at 7 hours for sleep, $\frac{1}{2}$ hour for prayers, $\frac{1}{2}$ hour for the toilet, 10 hours for classes or for labor, and 6 hours for meals and recreation. There is no special mode of religious instruction; and individuals of all persuasions, as Methodists, Anabaptists, Independents, Quakers, and others, may be found, and the Sundays are appropriated to tranquillity and repose." The establishment did not prove successful, and no trace of its peculiar features now remains.

LANARKSHIRE, or **CLYDESDALE**, an inland county of Scotland, bounded N. by the counties of Dumbarton and Stirling, E. by Linlithgow, Edinburgh, and Peebles, S. by Dumfries, and W. by Ayr and Renfrew; area, 986 sq. m.; pop. in 1851, 580,169. The river Clyde traverses the whole length of the county, and with its tributaries is noted for beautiful river scenery. The falls of Bonnington, Oora Linn, and Stonebyres are much visited by lovers of the picturesque. The county is nominally divided into 8 wards, the upper, middle, and lower; the upper is mountainous, the middle hilly, and the lower level. The Lowther hills, along the S., are from 2,000 to 3,000 feet high, but afford extensive ranges of pasturage. In these hills are valuable lead mines, consisting of 4 principal veins 4 to 10 feet thick, one of which has been wrought to a depth of 140 fathoms. Coal is also found in seams from 2 to 9 feet in thickness, and ironstone both in seams and masses. Dairy husbandry is carried on with great success. Oats are the principal grain crop, but wheat and barley are extensively grown. Clydesdale is noted for its orchards, as well as for its breed of draught horses. It is the seat of vast manufacturing industry in collieries, iron works, and cotton, flax, silk, and woollen factories. Lanarkshire returns one county member to parliament, with 4 others from its boroughs. In the time of James III. of Scotland gold was found in Lanarkshire, from which coins were struck called unicorns. Capital, Lanark.

LANCASHIRE, or the **COUNTY PALATINE OF LANCASTER**, a maritime, manufacturing, and mining county of England, on the Irish sea;

area, 1,905 sq. m.; pop. in 1851, 2,081,286. Liverpool is the great maritime emporium, and the only port of any magnitude. The principal manufacturing towns are Manchester, Bolton, Preston, Blackburn, Oldham, Ashton, Stockport, Bury, Chorley, Wigan, Rochdale, &c. The surface is nearly level, except in the N. and E. The long ridge known as the "backbone of England" separates the county from Yorkshire on the E., and the N. district is broken by Conistone Fells (2,577 feet high) and other considerable eminences. The Duddon, Lune, Wyre, Ribble, Mersey, and Irwell are the principal rivers. The prevailing geological formations are limestone, and carboniferous and new red sandstone. The Lancashire coal field covers 400 square miles of the S. and S. W. of the county thus underlying the whole of the manufacturing districts, and extending into Cheshire and North Wales on the one side, while on the other it is separated by but a brief interval from the coal fields of Yorkshire. Copper, iron, and lead are also found. Peat mosses form a remarkable feature of the surface. The principal of these swamps were formerly Chatmoos, 7 miles long, once considered irreclaimable, but now mostly under cultivation. The climate is humid, but temperate, and the soil moderately fertile. Dairy and hay farms are numerous, and potatoes are more extensively grown than in any other English county. The most important manufactures are cottons, woollens, worsted, flax, and silk goods, hats, paper, and soap. The manufacturing districts are traversed by a large number of canals and railways. Lancashire was made a county palatine by Edward III. in 1359. Riots took place in many parts of Lancashire in 1826 for the destruction of power looms. At present it is the most influential manufacturing district of England, and takes a leading position in all public questions, particularly those connected with commerce and industry. Lancashire returns to parliament 4 county and 22 borough members. The duchy of Lancaster is permanently annexed to the crown, and its net revenue is paid into the sovereign's privy purse. The receipts in 1855 were £36,000, and the expenditures £18,000. The "chancellor of the duchy of Lancaster" is a cabinet officer. Capital, Lancaster.

LANCASTER. I. A. S. E. co. of Penn., bounded S. W. by the Susquehanna river and S. E. by Octorara creek; area, 928 sq. m.; pop. in 1850, 98,944. The surface is uneven, South mountain extending along the N. W. frontier, and Mine ridge passing through the S. E. part. The surface between these mountains is undulating and traversed by many small streams. Blue limestone, roofing slate, marble, chrome, and magnesia are found in the county. The soil is a rich calcareous loam. The productions in 1850 were 1,808,312 bushels of Indian corn, 1,865,111 of wheat, 1,578,321 of oats, 215,277 of potatoes, 29,043 lbs. of wool, 1,907,843 of butter, and 96,134 tons of hay. There were 191 grist mills, 68 saw mills, 54 lime kilns, 4

iron mines, 11 furnaces, 5 iron foundries, 28 brick yards, 53 tanneries, 37 distilleries, 2 cotton factories, 17 woollen factories, 10 newspaper offices, 195 churches, and 17,000 pupils attending public schools. Capital, Lancaster. II. An E. co. of Va., on Chesapeake bay and on the N. side of the mouth of Rappahannock river; area, 161 sq. m.; pop. in 1850, 4,708, of whom 2,640 were slaves. The surface is nearly level and the soil is fertile. The productions in 1850 were 120,580 bushels of Indian corn, 24,424 of wheat, 10,857 of sweet potatoes, and 8,343 lbs. of wool. There were 7 grist mills, 1 saw mill, 10 churches, and 282 pupils attending public schools. Value of real estate in 1856, \$953,626, showing an increase of 20 per cent. since 1850. Capital, Lancaster Court House. III. A N. district of S. C., bordering on N. C., and bounded E. by Lynche's creek and W. by Catawba river; area, 690 sq. m.; pop. in 1850, 10,988, of whom 5,014 were slaves; white pop. in 1859, 6,478. The surface is diversified. The productions in 1850 were 352,218 bushels of Indian corn, 21,644 of wheat, 65,100 of oats, 84,683 of sweet potatoes, and 8,661 bales of cotton. There were 7 grist mills, 7 saw mills, 25 churches, and 569 pupils attending schools. Capital, Lancasterville.

LANCASTER, a city and the capital of Lancaster co., Penn., situated on the Pennsylvania central railroad, 68 miles by railroad and 55 in a straight line W. from Philadelphia; pop. in 1860, 16,000. The Conestoga river runs for more than half a mile within the city limits, and approaches the city line within a few hundred feet at the termini of one of the principal streets. From this point to where it enters the Susquehanna, at Safe Harbor, is by the course of the stream 19 miles, which in 1826 was made navigable for small craft by means of dams and locks. By this route, as well as by the railroad to Columbia, 12 miles distant, great quantities of coal and lumber are brought to Lancaster, the trade in these articles forming a considerable portion of the business of the place. The principal part of the town is elevated nearly 100 feet above the Conestoga, from which the city is supplied with water, which is raised by machinery to two large reservoirs. The cost of the works to the present time has been \$190,000. They were begun in 1835. The streets are generally straight and well paved, and cross one another at right angles. Gas has been introduced. Most of the city is substantially built of brick, many of the houses, particularly those erected within the past few years, being elegant and commodious. Among the public buildings, one of the most imposing is the court house, which is 160 feet long, 70 feet wide, 2 stories high, and surmounted by a dome. It contains all the county offices and 2 court rooms, and cost \$170,000. The county prison contains 80 cells, and is kept on the solitary labor system. It is a large castellated building of old red sandstone, erected at a cost of \$116,000. Its tower, 102 feet high, is the first object which strikes the eye of a traveller approaching Lancaster.

The old gaol, famous as the scene of the murder of the Conestoga Indians in 1768 by the Paxton boys, was taken down in 1851, and Fulton hall, a large and elegant building, used for concerts and as a theatre, now occupies its site. There are 20 churches (2 African, 1 Church of God, 2 Episcopal, 2 German Reformed, 3 Lutheran, 2 Methodist, 1 Moravian, 1 New Mennonite, 1 Presbyterian, 2 Roman Catholic, 1 Swedenborgian, and 2 United Brethren). The public schools usually contain 2,000 pupils. The male high school accommodates 180 scholars, and the course requires 4 years. The female high school contains 120 pupils. The amount of tax raised for school purposes in 1859 was \$15,981.55. Franklin and Marshall college stands on a rising ground in the N. W. corner of the city. The number of students in the college and preparatory department is 120. The buildings are yet incomplete. One daily and 6 weekly newspapers are published in the city. One of the principal manufactures of Lancaster is that of rifles, for which the place has long been celebrated; and the government is supplied by it with large numbers of these weapons. There are 3 large cotton factories, erected in 1846-'8, employing over 1,000 operatives. The Lancaster locomotive works have been suspended since the commercial crisis of 1857. Several iron foundries and a furnace are in operation here.—Lancaster was founded about 1718, and for some years was called Hickory Town. On the organization of the county in 1729, and the removal of the seat of justice from Conestoga in 1780, it took its present name. In 1742 it was chartered as a borough, and in 1818 made a city. In 1777 congress sat here for a few days, and the house still stands in which Paine wrote his letter to Lord Howe. From 1799 to 1812 it was the capital of the state, and from 1750 to 1825 was the largest inland town in the country.

LANCASTER, a village of Hocking township and the capital of Fairfield co., Ohio, situated on Hocking river, and on the line of the Cincinnati, Wilmington, and Zanesville railroad, 30 m. S. E. from Columbus, and 125 m. N. E. from Cincinnati; pop. in 1859, 6,000. It has an active trade, and is connected with the Ohio river by the Hocking canal. It is well built, the streets being wide and handsome, and many of the public and other edifices attractive. In 1859 it had 9 churches, 8 newspapers, a branch of the state bank of Ohio, an insurance office, 4 hotels, and several manufacturing establishments.

LANCASTER, a parliamentary and municipal borough, parish, and seaport of England, capital of Lancashire, situated on both sides of the Lune, on the canal from Preston to Kendal, and on the Preston, Lancaster, and Carlisle railway and a branch of the great north-western; pop. in 1851, 16,168. It is built chiefly on the side of a hill, the summit of which is crowned by a church and castle. The older streets are narrow, but many of the houses are handsome, and there are several striking public buildings. The

river is here crossed by a bridge of 5 arches and a magnificent aqueduct for the canal. The town hall, county lunatic asylum, theatre, baths, assembly rooms, custom house, churches, and castle are the most interesting edifices. The last is remarkable for its size and elegance, and embraces the courts, gaol, penitentiary, &c. The principal manufactures are upholstery, furniture, cotton, silk, linen, sail cloth, and cordage. There are several ship building yards, but this branch of industry is less attended to than formerly. The foreign trade of Lancaster is likewise declining, though it still retains a large commerce with Russia and America, and employs numerous coasting vessels. During the year 1856 the commerce of the port was as follows: vessels entered, 1,982, tonnage 189,355; vessels cleared, 1,753, tonnage 189,258; of these, 1,905 vessels of 183,186 tons entered coastwise, and 1,785 vessels of 184,788 tons cleared coastwise; registered shipping, vessels 101, tonnage 10,969. Lancaster returns 2 members to parliament.

LANCASTER, SIR JAMES, an English navigator, born about 1550, died in 1620. After serving in the East and West against the Portuguese, Spaniards, &c., he was appointed to command the first expedition sent out by the English East India company. He sailed from Torbay, Feb. 15, 1601, with 5 vessels, and returned to England in 1603, having not only fulfilled the duties imposed on him by his principals, but established commercial relations between them and the princes of Bantam in Java and Acheen in Sumatra. He entered warmly into the projects for discovering a N. W. passage to India, and strongly urged the government to attempt it. Baffin named after Capt. Lancaster a sound opening into Baffin's bay. Lancaster was knighted by Queen Elizabeth. An account of his voyages and discoveries will be found in Hakluyt and Purchas.

LANCASTER, JOSEPH, an English educational reformer, born in London in 1771, died in New York, Oct. 24, 1838. The system of which he became a principal advocate and promoter had been originally introduced into England from India by Dr. Bell. It involved a course of mutual instruction, and from his boyhood Lancaster seems to have been deeply impressed with its advantages. In 1789 he accordingly opened a school for poor children in Southwark, whom he taught almost gratuitously, and whose number gradually increased to 800. His success attracted public attention to the new system, in support of it, and numerous schools on the same plan were opened by him in different parts of the country. A rival now appeared in the person of Dr. Bell, who, having the patronage of the clergy of the established church, soon cast Lancaster, who was a Quaker, into the shade, and broke up his establishments. The latter, after failing at home, emigrated in 1818 to the United States, where he was well received, but injured his prospects by imprudence.

In 1839 he went to Canada, where the legislature made him some pecuniary grants to enable him to give his system a fair trial. Becoming again embarrassed, some of his friends purchased for him a small annuity, and he removed to New York. He wrote a work on "Improvement in Education" (London, 1805), several elementary school books, and pamphlets in defence of his system, which is now generally known by his name and successfully practised in many parts of Great Britain and other countries.

LANCASTER SOUND, a channel leading from Baffin's bay W. to Barrow strait, in the American arctic regions. Its E. entrance lies between Capes Horsburgh on the N. and Liverpool on the S., in lat. $78^{\circ} 45'$ to $74^{\circ} 55'$ N., long. 79° W. On the W. it opens into Prince Regent inlet, Barrow strait, and Wellington channel. It is the entrance to the N. W. passage, and was probably in the course of Sir John Franklin's last voyage. Length about 250 m.; central breadth about 65 m. The great island of North Devon forms its northern coast, and several islands formerly thought to be part of Cockburn island its southern. On the former side Croker bay opens into it; on the latter it receives Navy Board and Admiralty inlets. It was discovered by Baffin in 1616.

LANCE, a weapon. See ARMS.

LANCE, GEORGE, an English painter of still life, born in Little Easton, near Colchester, March 24, 1802. He studied with Haydon, and first exhibited at the academy in 1823, since which time he has been a pretty regular contributor to the annual exhibitions of the academy and the British institution. His favorite subjects are fruit, flowers, game, &c., arranged in picturesque and effective confusion, and which he executes with an elaborateness and a richness of color almost equalling the efforts of the old Dutch masters of still life. Sometimes he introduces figures, as in his "Red Cap," in which a monkey is represented presiding over a table covered with fruits and festal appointments. He has also painted historical and imaginative pieces. He restored a large portion of the celebrated "Boar Hunt" of Velasquez in the British national gallery.

LANCE, WILLIAM, an American author and politician, born in Charleston, S. O., in 1791, died in Texas in 1840. He was educated at the associated academy of Charleston, in which he held the first rank for scholarship. He passed thence to the law offices successively of Thomas Parker and Judge Richardson, and soon attained distinction as a scholar and public speaker. His services were often in request as an orator on public occasions. He was sent to the legislature in 1812 as a member of what was then known as the republican party in contradistinction to the federal. He wrote frequently, chiefly as a political essayist. Though without collegiate advantages, he was a diligent classical student, composed in Latin with ease, and wrote in that language a biography of Washington, published in Charleston, which received the approbation of

competent scholars. A similar work by Francis Glass appeared soon after in New York (1835); but, though both were commended by critics as creditable specimens of Latinity, they were not applied to the use designed by their authors of instruction at once in the Latin language and American history.

LANCIE WOOD, a wood imported from the West India islands and South America in long poles from 3 to 6 inches in diameter. The tree is the *Guatteria virgata*, formerly known as the *uaria lanceolata*. It resembles boxwood, but is of somewhat paler yellow. It is remarkably stiff and elastic, and is consequently well adapted for the shafts of carriages, bows, and springs. It is largely employed for these, as well as for surveyors' rods, billiard cues, and rules, which ordinarily pass for boxwood.

LANCÉLOT, DOM CLAUDE, a French grammarian, born in Paris about 1615, died in Quimperlé, April 15, 1695. In early life he attracted the attention of the celebrated abbé St. Cyran, and through his influence he joined the recluses of Port Royal, whom he greatly assisted in the organization and management of the schools connected with their community. He wrote grammars of the Latin, Greek, Italian, and Spanish, and a *Grammaire générale et raisonnée*, still highly valued. On the dispersion of the society of Port Royal by order of the king, Lancelot became preceptor of the duke of Chevreuse's son, and afterward, from 1669 to 1672, was attached in the same capacity to the two young princes of Conti. In 1678 he retired to the abbey of St. Cyran, where he led a life of austerity; and in 1680 was ordered to Quimperlé, where his last years were spent in devotion. His *Grammaire générale*, better known as *Grammaire de Port Royal*, has been frequently reprinted.

LANCISI, GIOVANNI MARIA, an Italian physician, born in Rome, Oct. 26, 1654, died there, Jan. 21, 1720. He was bred for the church, but having abandoned the study of theology for that of the natural sciences, he was graduated doctor in medicine and philosophy at the college of the Sapienza in Rome at the age of 18. In 1676 he was appointed assistant physician to one of the hospitals, and some time later was nominated to the chair of anatomy at the Sapienza, which he filled with great reputation for 13 years. Pope Innocent XI. in 1684 presented him with a canonry. He filled various professional offices, was physician successively to the college of cardinals and to the pope, and enjoyed many titular honors and the friendship of Clement XI. He left a number of valuable works, chiefly relating to his favorite studies of anatomy, natural philosophy, and mathematics. Among them are: *De Subtaneis Mortibus* (4to., Rome, 1707), written in consequence of many sudden deaths which occurred at Rome in 1705-'6; *De Nativis atque Adventitiis Romani Calis Qualitatibus, cui accedit Historia Epidemice Rheumaticæ quæ per Hyemem Anni 1709 vagata est* (1711); *De Noxiis Paludum Effluviis eorum-*

que Remediis (1717); *De Motu Cordis et Aneurismatibus* (1728). A collection of his works appeared in his lifetime (2 vols. 4to., Geneva, 1718), and a complete edition in folio was published at Venice in 1739.

LANDAU, a fortified town of Germany, in Rhenish Bavaria, on the Queich, 18 m. N. W. from Carlsruhe, on the railway from Paris to Mentz; pop. about 7,000. It contains an arsenal, and various manufactories. It was formerly an imperial city; was ceded to France in 1680, and after the fall of Napoleon in 1814 was restored to the Germanic confederation.

LANDEN, JOHN, an English mathematician, born in Peakirk, near Peterborough, in Jan. 1719, died Jan. 15, 1790. Little is known of his personal history, except that from 1762 to 1788 he held the position of agent for Earl Fitzwilliam. He was retired in his habits, but disposed to be quarrelsome and dogmatic in society. His earliest mathematical writings appeared in the "Ladies' Diary" for 1744, and most of his subsequent papers were contributed to the "Transactions" of the royal society of London, of which he was admitted a member in 1766. He is best known by his "Residual Analysis" (London, 1764), in which he proposed a new form of fluxionary calculus, and invented a set of symbols. His plan has been thought an improvement on the method of ultimate ratios, but it lacks simplicity, and was never in general use. The principal other works of Landen are: "Mathematical Lucubrations" (4to., London, 1755); "Animadversions on Dr. Stewart's Computation of the Sun's Distance" (4to., 1771); "Observations on Converging Series" (4to., 1781); "Mathematical Memoirs respecting a Variety of Subjects" (2 vols. 4to., 1780-'89).

LANDER, LOUISA, an American sculptress, born in Salem, Mass., about 1835. In early youth she manifested her taste for sculpture by modelling heads for dolls, and carving bas-reliefs on alabaster and other soft substances. As she grew older she modelled excellent likenesses of various members of her family, and executed cameo heads. At about the age of 20 she went to Rome and became the pupil of Crawford, and soon after finished in marble "Today," a youthful figure emblematic of America, and "Galatea." Among her subsequent works are a bust of Gov. Gore of Massachusetts, in Gore hall, Harvard college, executed from 2 oil portraits; a bust of Hawthorne; a spirited statuette of Virginia Dare, the first English child born in America; a life-size statue of Virginia; a reclining statue of Evangeline; "Elizabeth, the Exile of Siberia;" a statuette of Undine, and one of "Ceres Mourning for Proserpine;" and numerous portrait busts. She is now (1860) engaged upon a figure of a "Sylph Alighting."

LANDER, RICHARD, an English traveller, the discoverer of the course of the river Niger in Africa, born in Truro, Cornwall, in 1804, died on the island of Fernando Po, Feb. 7, 1834. He was of humble extraction, and early found employment in a menial capacity. In 1825, im-

pelled by a spirit of adventure, he entered the service of Capt. Clapperton, whom he accompanied upon his second African expedition. After the death of Clapperton at Sackatoo, he returned to England, and in the latter part of 1829 published "Records of Capt. Clapperton's Last Expedition to Africa" (2 vols. 8vo., London), prepared from Clapperton's papers and his own journal. In Jan. 1830, accompanied by his brother John, he sailed for Africa under government auspices to continue the explorations of Clapperton; and departing from Badagry near Cape Coast Castle, March 22, he reached Boossa on the Quorra, or Niger, June 17. Thence the brothers ascended the river 100 miles to Gaoorie, and returning to Boossa early in August, commenced the descent of the stream in canoes, Sept. 20. After numerous hazardous adventures, they reached the mouth of the river through its principal arm, the Nun, in the latter part of November, and were received on board an English brig, in which they sailed to Fernando Po. In June, 1831, they arrived in England, *via* Rio Janeiro; and in the succeeding year a narrative of the expedition, prepared by Lieut. Becher from the account of the Landers, was published in 2 vols. with a map. In addition to the discovery of the course of the Niger, they first ascertained its confluence with the Benooe or Tchadda, as it was called. In 1832 an expedition, consisting of a brig and two small steamers, was organized by a company of Liverpool merchants for the purpose of opening a trade with the tribes along the Niger, and placed under the command of Richard Lander. It reached the river Nun Oct. 16 in the same year, and proceeded to ascend the Niger to Boossa. The natives, however, showed little disposition to trade with the Europeans, and Lander returned ill to the sea coast in the succeeding spring, with the loss of several of his men by sickness. In the latter part of July he reascended the river in one of the steamers (the other having returned to Europe), as far as Rabba, about 100 miles below Boossa; but the natives proved so indifferent to trade that the expedition, regarded as a commercial venture, was a failure. On this voyage he ascended the Benooe as far as the country of Domah, 104 miles; but finding the people inhospitable and uncommunicative, he was forced to return through failure of provisions to the Niger. On Nov. 27 the expedition was again in motion up the river under the command of Dr. Oldfield, Richard Lander designing to follow early in 1834 with supplies. On Jan. 20 the latter, while proceeding up the Brass river, an arm of the Niger, was severely wounded in a conflict with the natives of the Eboe country. He escaped down the river in a canoe, and succeeded in reaching Fernando Po, where he died soon after. In 1835 an account of his last voyage was published under the title of "Narrative of the Expedition into the Interior of Africa by the River Niger, in the Steam Vessels Quorra and Alburkah, in 1832, 1833, and 1834, by McGregor Laird and

R. A. K. Oldfield, surviving officers of the expedition."

LANDES, *Lea*, a maritime department of France, forming part of the ancient province of Gascony, and bounded N. by Gironde, E. by Lot-et-Garonne and Gers, S. by Basses-Pyrénées, and W. by the bay of Biscay; area, 3,599 sq. m.; pop. in 1856, 309,832. The name is derived from the sandy and marshy plains which compose the greater part of its surface. These plains prevail generally in the interior, and are in many places covered with thorny shrubs over which the shepherds stalk on stilts. The only crops which the *landes* yield are maize and barley. The coast district is studded with numerous lagoons; but toward the S., where the roots of the Pyrénées interrupt the continuity of the plain, and the tributaries of the Adour irrigate the soil, the country is fertile, and abounds in corn, wine, and various kinds of fruit. The other productions of this department are timber, coal, iron, and marble. The climate is mild, but unhealthy. The principal manufactures are glass, porcelain, earthenware, paper, leather, &c., employing about 6,000 persons. The chief rivers are the Leyre, Adour, and Gave-de-Pan. Capital, Mont de Marsan.

LONDON (MACLEAN), LETITIA ELIZABETH, an English authoress, born in Old Brompton, a suburb of London, in 1802, died at Cape Coast Castle, Africa, Oct. 15, 1888. Much of her youth was passed at a country seat in Hertfordshire, among scenes and associations which could hardly fail to develop a poetic and imaginative nature. At 18 she began to write poetry, and a few years later, while residing with her grandfather at Old Brompton, she made the acquaintance of William Jerdan, who published some of her small pieces in the "Literary Gazette," of which he was then the editor. They were signed "L. E. L.," as were most of her subsequent productions, and attracted considerable attention. Others of a higher strain succeeded, and "L. E. L." soon became one of the most popular metrical writers of the day. Mr. Jerdan next employed her as a general contributor to the "Gazette," not of original poems merely, but of reviews and miscellaneous articles; and in time her labors became so numerous and important as to entitle her to be called rather a co-editor than an occasional contributor, her efforts being, as Mr. Jerdan has stated, scarcely less than his own. Her intimacy with Mr. Jerdan gave rise to many cruel slanders, which caused her the keenest sufferings. Her father dying in somewhat destitute circumstances when she was yet a child, she became the chief support of her family, and for a period of 15 years was a ready and prolific writer in prose and verse for the annuals and for a variety of periodicals. In 1821 she published a small collection entitled "The Fate of Adelaide, and other Poems," which was succeeded by "The Improvisatrice," "The Troubadour," and other long pieces. The rich fancy and the romantic and melancholy sentiment

which pervaded them seemed to accord very happily with the popular taste. The sadness which characterized Miss Landon's poetry, however, and which elicited many expressions of sympathy in her behalf, was purely imaginative, as she was of a cheerful and even joyous disposition, and possessed many attractions of person and manners. The Ettrick Shepherd, who had severely criticized her poems, could not repress his admiration upon meeting her for the first time, but exclaimed with characteristic bluntness: "I did nae think ye had been sae bonny." Miss Landon also published 4 novels, "Ethel Churchill," "Francesca Carrara," "Romance and Reality," and "Duty and Inclination," which however were not so successful as her poems. Another novel commenced by her, entitled "Lady Anne Granard," was published 2 years after her death. In June, 1838, she was married to George Maclean, who held an official station at Cape Coast Castle in West Africa, and soon afterward sailed with him for her new home. She died in a few months after her arrival there from an overdose of prussic acid, which she had been accustomed to take in small quantities for hysteric affections, and was discovered lying dead upon the floor of her chamber. A coroner's jury found no cause for suspicion that her death had been produced intentionally. In 1841 Laman Blanchard published the "Life and Literary Remains of L. E. L.," in 2 vols. 8vo.

LANDOR, WALTER SAVAGE, an English author, born at Ipsley Court, Warwickshire, Jan. 30, 1775. His father, Walter Landor, a gentleman of good birth and property, took for his second wife Elizabeth Savage, a Warwickshire heiress, who added to her husband's fortune a dowry of more than £80,000. Walter Savage Landor was their eldest son, and was educated with great care under private tutors, at Rugby school, and at Trinity college, Oxford. Being rusticated at the university for firing a gun in the quadrangle, he never returned to take his degree. He was at first designed for the army, and then for the legal profession, but his independent and impulsive nature made him ultimately prefer a life of freedom and literary pursuits on an income granted him by his father. Soon after leaving Oxford, in 1795, he published a volume of poems. In 1798 appeared a more important poem, "Gebir," which he had written in Swansea, and which was favorably noticed by Southey in the "Critical Review." This approval was amply satisfactory to Landor, who cared nothing for the opinions of smaller critics, and induced him to republish it in a Latin version (1803). In 1802 he visited Paris, and saw Napoleon made consul for life. On the death of his father he succeeded to the family domains, and purchased other estates in Monmouthshire; he expended £7,000 in improving them, and built a mansion which cost £3,000; but in 1806, in disgust with some of his tenantry, one of whom had absconded several thousand pounds in his debt, he sold off his entire property, a part of which had been in his family for 700 years, and

ordered the mansion which he had built to be demolished. He determined to live abroad free from the trammels and vexations of an English landlord. In 1808, at the outbreak of the insurrection in Spain against Napoleon, Landor was said to be the first Englishman who went to assist the Spanish patriots. He raised a body of troops at his own expense, conducted them from Corunna to Aguilar, the head-quarters of Gen. Blake, viceroy of Galicia, presented 20,000 reals to the cause, received the thanks of the supreme junta for his services, and was appointed a colonel in the Spanish army. He resigned his commission on the restoration of King Ferdinand and the subversion of the constitution framed by the Spaniards during their struggle for independence, declaring "that though he was willing to aid the Spanish people in the assertion of their liberties against the antagonist of Europe, he would have nothing to do with a perjurer and a traitor." In 1811 he married Julia Thuillier de Malaperte, of Bath, a daughter of the baron de Nieuveville, descendant and representative of the nobleman of that name who had been first gentleman of the bedchamber to Charles VIII. In 1815 he removed to Italy, where he has since resided, with the exception of occasional tours and a residence of several years in Bath, England. He occupied for 7 years the palace of the Medici at Florence, and then purchased the villa and gardens of Count Gherardesca, at Fiesole, near that city. In 1820 he published at Pisa his Latin *Idyllia Heroica*, with an appendix in Latin prose on the reasons why modern Latin poets are so little read. His literary reputation was greatly increased by his prose work entitled "Imaginary Conversations" (5 vols. 8vo., London, 1824-'9). These supposed dialogues between remarkable personages of past or present times admirably illustrate the peculiarities of the different interlocutors and of the periods in which they lived, and also abound in paradoxical and original opinions. They were followed by a new edition of "Gebir, Count Julian, and Other Poems" (1831); by "Pericles and Aspasia" (1836); a "Satire on Satirists and Admonition to Detractors" (1836); the "Pentameron and Pentalogia" (1837); and the dramas "Andrea of Hungary and Giovanna of Naples" (1839). All these works were written in Italy. During his residence at Bath, he published the "Hellenics" (1847); a new edition of the *Gebirus, Idyllia Heroica*, &c., under the title of *Poemata et Inscriptiones* (1847); "Imaginary Conversation of King Carlo Alberto and the Duchess Belgiojoso on the Affairs and Prospects of Italy" (1848); "Popery, British and Foreign" (1851); the "Last Fruit off an Old Tree" (1853); "Letters of an American" (1854), under the pseudonyme of Pottinger; "Antony and Octavius" (1856); "Dry Sticks Fagoted" (1857); and frequent contributions to the "Examiner" newspaper. The last named book contained some most objectionable poems, libelling a lady of Bath to whom Landor had conceived an intense

personal dislike, and for which he was prosecuted and subjected to a verdict of £1,000 damages. Occasional pungent letters and epigrams on foreign politics still appear from his pen in the English journals. Southey, in a note to his "Vision of Judgment," writes: "Of the author of 'Gebir' and 'Count Julian' I can only say in this place, that to have obtained his approbation as a poet, and preserved his friendship as a man, will be remembered among the honors of my life when the petty enmities of this generation will be forgotten, and its ephemeral reputations shall have passed away." Emerson, in his "English Traits," says of him: "He is strangely undervalued in England—usually ignored—and sometimes savagely attacked in the reviews. The criticism may be right or wrong, and is quickly forgotten; but year after year the scholar must go back to Landor for a multitude of elegant sentences—for wisdom, wit, and indignation which are unforgettable." All of his writings contain highly intellectual and vigorous passages, but his poems especially display an effort to reproduce the genius and style of Hellenic poetry, and seem foreign to modern habits of thought. An edition of his collected works was published in London in 1846 (2 vols. 8vo.; reprinted in 1853). A selection from his writings was edited by George S. Hillard (Boston, 1856).—His brother, the Rev. R. E. LANDOR, is the author of several works, including two remarkable novels, the "Fawn of Sertorius" (2 vols., 1846), and the "Fountain of Arethusa" (2 vols., 1848).

LAND'S END (anc. *Bolerium Promontorium*), a remarkable headland projecting into the Atlantic at the W. extremity of Cornwall, England. It is formed of granite cliffs, whose summits are 60 feet above the level of the sea, and is the most western point of Great Britain. About one mile distant from it are the dangerous rocks called the Longships, on which has been erected a lighthouse with fixed lights 88 feet above high water. On a peninsula near by is one of those natural curiosities called "logging" or "logan stones," so poised on a fulcrum that they can be made to rock.

LANDSEER. I. JOHN, an English engraver and author, born in Lincoln in 1769, died Feb. 29, 1852. His reputation was founded on the engravings furnished for Bowyer's edition of Hume's "History of England" and Moore's "Views in Scotland" toward the close of the last century, and on a series from the works of Rubens, Snyders, and other artists. In 1806 he delivered a course of lectures on engraving at the royal institution. At the same time he was elected an associate engraver in the royal academy, an honor which he accepted for the purpose of removing the restrictions against the admission of engravers to full membership. Failing in this object, he devoted himself chiefly to literary pursuits, and started at different periods two art journals, both of which speedily failed. He also cultivated archaeology, and published a 4to. volume on engraved gems and

hieroglyphics. His "Descriptive, Explanatory, and Critical Catalogue of some of the Earliest Pictures in the National Academy" is full of amusing gossip. His best engraving is the "Dogs of Mount St. Bernard," from one of the earliest pictures of his son, Sir Edwin Landseer. II. THOMAS, eldest son of the preceding, born about the close of the last century. He adopted his father's profession, and has executed many engravings in mezzotint from his brother Edwin's pictures. He is also known as an excellent etcher. One of his latest works is an engraving of Rosa Bonheur's celebrated picture of the "Horse Fair." III. CHARLES, brother of the preceding, a painter of *genre*, born in the early part of the present century. He received his first instructions in painting from Haydon, who manifested great interest in his progress. He first exhibited in the royal academy in 1828, and in a few years gained the reputation of a clever painter of domestic history and *genre*. He succeeded on several occasions in receiving from the art union the highest prizes for his works on exhibition. Among his most popular pictures are "Pamela," "Clarissa Harlowe in Prison," "The Monks of Melrose," &c. He is a member of the royal academy, and in 1851 was appointed keeper. IV. SIR EDWIN, brother of the preceding, a painter of animals, born in London in 1803. While a child he was remarkable for skill in drawing, and for the facility with which he seized the characteristic expression of the object he was imitating. His father encouraged his talent, and personally superintended his education. He took him into the fields, and made him copy the ordinary domestic animals, at rest or in motion, from the life, and in the same way caused him to acquire his first notions of color. By these means Landseer soon became a ready and skilful painter from nature, and at the age of 14 attracted attention by his spirited sketches of terrier dogs, horses, cats, and other animals. Two years later he exhibited his "Dogs Fighting," which was purchased by Sir George Beaumont, and shortly afterward a striking picture of two St. Bernard dogs rescuing a traveller from the snow, which was engraved by his father. About this time he received to a limited extent instructions and advice from Haydon, but never, like his brother, became a regular pupil. He also drew in the schools of the royal academy, and from the Elgin marbles; but animals, and particularly those of the domestic kind, were the chief objects of his study. The praises bestowed upon his youthful performances served as an incentive to fresh exertions, and each year witnessed an improvement in the finish and details of his works. In 1827 he was elected an associate member of the royal academy, having just reached the requisite age, and about the same time made a visit to the highlands of Scotland, the impressions derived from which have been reproduced in a series of characteristic works. Among his best pictures are: "The Return from Deer-Stalking," exhibited in 1827; the "Poach-

ers—Deer-Stalking;" "None but the Brave deserve the Fair;" "Sir Walter Scott and his Dogs;" "The Otter Speared;" "The Stag at Bay;" "The Drive—Shooting Deer on the Pass;" "The Random Shot," a touching picture, representing a fawn endeavoring to draw suck from its dead dam; and "Night and Morning," a stag fight, and the "Children of the Mist," two of his latest and most remarkable works. Of a different class, but quite as effective of their kind, are the "Illicit Whiskey Still;" "Highland Music," now in the Vernon collection; the "Drover's Departure;" "The Old Shepherd's Chief Mourner," a sheep dog watching by his master's coffin; "High Life" and "Low Life;" the "Distinguished Member of the Humane Society," a noble portrait of a Newfoundland dog; "The Shepherd's Prayer," and many others, extending over a period of 80 or 40 years. No English painter of the century has been more universally popular, and none, unless perhaps Sir Thomas Lawrence, has received more lucrative rewards from his pencil. His pictures have for many years been regularly engraved, and for the copyright of some of them he has received as much as £3,000 in addition to the price of the picture. For more than 80 years Landseer has been a royal academician, and in 1850 he was knighted. At the *exposition universelle* of 1855 in Paris, a large gold medal was awarded to him, an honor accorded to no other British artist.

LANE, EDWARD WILLIAM, an English orientalist and author, born about the commencement of the present century. The greater part of his life has been devoted to the study of the oriental languages, particularly Arabic, in which he is deeply learned; and for many years he has been employed in preparing an Arabic lexicon and thesaurus, which is not yet completed. As an author he is widely known by his translation of the "Arabian Nights," published in 8 magnificent volumes, with illustrations by W. Harvey (1840), and by his "Manners and Customs of the Modern Egyptians" (8d ed. with additions, 2 vols. 8vo., London, 1842), one of the most valuable works of the kind ever published, and the materials for which were procured during a lengthened residence in Grand Cairo, where he still remains. He has also published "Arabian Tales and Anecdotes," and "Eastern Tales and Anecdotes."

LANE, JOSEPH, U. S. senator from Oregon, born in North Carolina, Dec. 14, 1801. In 1804 his father removed to Henderson co., Ky. The educational advantages of the son were meagre. From early boyhood until he attained the age of 20 he was alternately employed in the office of the county clerk, and in a dry goods store. In 1821 he married and settled on a farm in Vanderburg co., Ind. The following year he was elected to the legislature. From that time he represented his adopted county in one branch or the other almost continuously for 25 years. When the war broke out with Mexico in 1846, he resigned his seat in the state senate and vol-

unteered as a private soldier. His company with several others having assembled at New Albany, and formed a regiment, Mr. Lane was elected colonel. A few days afterward he received from President Polk a commission as brigadier-general. He immediately set out for the seat of war, in command of 8 regiments of Indiana volunteers, and in two weeks landed at the Brazos, and reported for duty. His brigade was assigned to Gen. Butler's division. At the battle of Buena Vista he commanded the left wing, and commenced the engagement by attacking a division of the Mexican army numbering 5,000, commanded by Gen. Ampudia. In the course of the day he was wounded in the right arm, but remained on the field. In June, 1847, he went to New Orleans, where the Indiana regiments were disbanded. Returning to Gen. Taylor's line, he was ordered to join Gen. Scott. Landing at Vera Cruz Sept. 16, he set out for the city of Mexico in command of 3,000 men. On Oct. 9 he defeated Santa Anna at Huamantla. On the 19th he attacked a strong force of guerrillas at Atlixco, and took the place, losing but one man, while the loss of the enemy in killed and wounded was 500. On the 29th he broke up another guerilla band at Tlascala. On Nov. 22 he took Matamoras, which was strongly fortified, capturing a large amount of ammunition and military stores; and on Dec. 14 he reached Gen. Scott's head-quarters. On Jan. 15, 1848, he left the capital under orders to scour the country between Mexico and Vera Cruz, to rid it of guerilla marauders. After an unsuccessful attempt to capture Santa Anna, who was at Tehuacan with 500 men, he took Orizaba, and was engaged in other successful partisan operations. On Feb. 17 he was sent out by Gen. Scott in pursuit of the robber chief Jarauta. On the 21st he reached Tulancingo, where Gen. Paredes barely escaped capture. On the 24th he came up to Jarauta at Tehualtaplan, and a fierce fight ensued, in which Jarauta was wounded but succeeded in making his escape. This was the last fighting during the war. Gen. Lane for his gallant services in Mexico was breveted a major-general. In Aug. 1848, he was appointed governor of Oregon territory, and reached Oregon City in March, 1849. He continued to discharge the duties of governor until Aug. 1850, when he was removed by President Taylor. In 1851 he was elected territorial delegate to congress. He was successively re-elected as a delegate until Oregon was admitted into the Union as a state in 1859, when he was chosen U. S. senator. In politics he is a democrat, having acted with that party since 1824. He was nominated for the vice-presidency by a democratic convention at Baltimore, in June, 1860.

LANFRANC, archbishop of Canterbury, born in Pavia about 1005, died in England, May 28, 1089. He was instructed in grammar and logic at Pavia, and in civil law in the university of Bologna, and after practising for several years as an advocate in Pavia, established himself at Avranches in Normandy, where he taught juris-

prudence with great reputation. Journeying from this city to Rouen about 1042, he was attacked by robbers, who stripped him and left him for dead. The monks of the neighboring Benedictine abbey of Bec having received him with great kindness, he soon after assumed the habit of the order, and in 1045 was chosen prior of the abbey. Here he opened a school, which became one of the most famous of Europe, embracing in its course all the learning of the age, and to which pupils resorted from England, France, Germany, Flanders, and even Italy. Among the learned men whom his reputation attracted thither was Berengarius, archdeacon of Angers, between whom and Lanfranco a famous controversy was conducted on the subject of the eucharist. At Rome in 1050, and subsequently at the council of Vercelli, Lanfranco combated the arguments of his opponent, who was repeatedly obliged to abjure his opinions. Having in 1059 procured for William duke of Normandy, who had married his cousin, the daughter of the count of Flanders, a dispensation from the pope, he became a favorite with William, and was appointed a councillor of state, and in 1066 abbot of the newly erected monastery in Caen, where he established a new school, which likewise became celebrated. After the conquest of England William summoned him to that country, and caused him to be elected to fill the see of Canterbury, then vacant by the deposition of Stigand. Lanfranco would have declined the honor, as he had previously the office of archbishop of Rouen; but at the command of Alexander II., who had been one of his pupils, he was consecrated in 1070. Having with some difficulty procured his recognition as primate of England, he gave a proof of his attachment to William by placing in vacant bishoprics and over the chief religious houses ecclesiastics of known fidelity to the Norman interest, which was thereby greatly strengthened in all parts of the kingdom. So highly was he esteemed for these and other services, that the chief direction of affairs both in church and state was committed to his hands whenever the king was absent in Normandy, and William Rufus upon his accession intrusted the government to him. In his ecclesiastical capacity he improved the discipline of the monastic bodies, strictly enforced the celibacy of the priesthood, established schools, convents, and hospitals, and built churches and cathedrals. His wisdom, learning, and munificence, according to the testimony of contemporary chroniclers, were alike conspicuous. His works, consisting of commentaries on St. Paul's epistles, letters, sermons, and his treatise on the eucharist against Berengarius, evince a clear, terse, and nervous style. A complete edition appeared in Paris in 1648. The latest is that by Giles (2 vols. 8vo., London, 1844).

LANFRANCO, GIOVANNI, an Italian painter, born in Parma in 1581, died in Rome in 1647. While a boy in the service of Count Orazio Scotti in Piacenza, he attracted the attention

of his master by some designs executed upon a wall with charcoal. He was placed under Agostino Carracci, and subsequently studied at Rome with Annibale Carracci, whom he assisted in decorating the Farnese palace. His chief work is the cupola of S. Andrea della Valle in Rome, in which he has represented the Virgin seated in the clouds surrounded by saints, and contemplating Christ, who is above. This work had been promised to Domenichino, his former fellow pupil, but Lanfranco intrigued successfully to procure the commission to execute it, as well as that of the Tesoro in Naples, which had also been given to Domenichino.

LANG, LOUIS, an American artist, born in Waldsee, Württemberg, March 29, 1814. His father, who was a historical painter, destined him for the musical profession; but his own tastes were for painting, and he finally determined to devote himself entirely to that art, and during the illness of his father aided in the support of his family by painting carriages, designing monuments, and decorating churches. He continued at the same time to perform in the choir of the cathedral. At 16 years of age he executed likenesses in pastel with considerable success, and during a residence of 4 years on the lake of Constance he painted nearly 1,000 portraits in pastel and oil. He went in 1834 to Paris, and subsequently established himself in Stuttgart. About 1838 he came to America and settled temporarily in Philadelphia. In 1841 he went to Italy, and spent 5 years studying in Venice, Bologna, Florence, and Rome. In 1845 he returned to America, taking up his residence in New York, and for two years employed himself in the decoration of interiors and in modelling plaster figures for ornamental purposes. In 1847 he again visited Rome, and remained there two years, returning to New York in 1849, where he has since resided. His pictures embrace a wide range of subjects.

LANGBAINE, GERARD, an English scholar, born in Westmoreland about 1608, died in 1658. The greater part of his life was passed at Oxford, where he was provost of Queen's college, and keeper of the university archives. He was an industrious writer, and succeeded in avoiding the political troubles of the time. His chief work was an edition of Longinus, in addition to which he published a number of minor treatises on church questions and miscellaneous topics.—GERARD, son of the preceding, born in Oxford in 1656, died in the early part of the 18th century. He was educated at University college, Oxford, and, after a career of idleness and extravagance, devoted himself to literary pursuits. He gave particular attention to the history of dramatic literature, and collected, it is said, upward of 1,000 old plays. His principal works are: "A New Catalogue of English Plays," and "Account of the English Dramatic Poets," both of which, though of little critical authority, are valuable to the student of dramatic history from the accuracy with which facts are related and editions described. Of

these works Lowndes says: "Of the several early catalogues of the English stage Langbaine's only is to be implicitly relied on for its fidelity. Commentators and others have borrowed copiously from him, many of them without acknowledgment."

LANGBEIN, AUGUST FRIEDRICH ERNST, a German author, born near Dresden, Sept. 6, 1757, died in Berlin, Jan. 2, 1835. He studied law, filled various public offices, and from 1810 till his death was censor of belles-lettres publications for the Prussian government. His complete works were published in 31 vols. (Stuttgart, 1835-'7), and comprise humorous poems, tales, and novels, some of which have been very popular.

LANGDON, JOHN, an American statesman, born in Portsmouth, N. H., in 1739, died there, Sept. 18, 1819. At the outbreak of the revolutionary war, although then profitably engaged in business, he embarked in the patriotic cause, and in 1774 participated in the removal of the armament and military stores from Fort William and Mary in Portsmouth harbor, an act which imperilled his life and property. In 1775 he was a delegate to the continental congress, but resigned office in June, 1776, on becoming navy agent. In 1777, while speaker of the New Hampshire assembly, he pledged a large portion of his property for the purpose of equipping the brigade with which Stark defeated the Hessians at Bennington. Subsequently he was a member and speaker of the state legislature, a member of the continental congress, a delegate to the convention which framed the constitution of the United States, and president of New Hampshire. He was one of the first U. S. senators from New Hampshire, which office he held until 1801. In politics he was a republican, and acted with Jefferson, who upon assuming office in 1801 offered him the post of secretary of the navy, which he declined. From 1805 to 1812, with the exception of 2 years, he was governor of New Hampshire; and in 1812 he was offered by the republican congressional caucus the nomination for the office of vice-president of the United States, which, on the score of age and infirmities, he declined. The remainder of his life was passed in retirement.

LANGELAND, an island of Denmark, situated between Laaland and Fünen, in the Great Belt; length 32 m., average breadth 4 m.; area, 106 sq. m.; pop. in 1851, 17,368. The E. coast has excellent harbors where the largest vessels may at all times find anchorage. The climate is healthful, and the soil fertile. Langeland forms with Fünen a circle of the kingdom. Capital, Rudkiöbing.

LANGERON, ANDREAU, count, a Russian general of French birth, born in Paris, Jan. 18, 1763, died in St. Petersburg, July 4, 1831. He entered the French army as 2d lieutenant, and sailed in 1782 for the United States, where he served till the peace. He was promoted on his return to France, and held the rank of colonel

when the revolution broke out. He then left France, was admitted into the Russian service, and distinguished himself under Potemkin in Bessarabia, and under Repnin in Moldavia. In 1792, in concert with many *émigrés*, he joined as a volunteer the Prussian army under the duke of Brunswick, and afterward the Austrian troops under the prince of Saxe-Coburg, participating in the battles fought by both against his own countrymen. On the retreat of the Austrians in 1795, he returned to Russia, where he became a lieutenant-general in 1799, and was made a count of the empire. In 1805, at the battle of Austerlitz, he commanded a division which was almost entirely destroyed; this loss caused him to be for a while disgraced. From 1807 to 1812 he was employed in the Russian war against the Turks. Under Tchitchagoff he pursued the remnants of the great French army from Russia, and kindly treated such prisoners as fell into his hands. In 1818 he participated in the campaign in Germany, contributed to the victory of Leipsic, and advanced as far as the Rhine. In concert with Blücher, he marched toward Paris, fought in nearly every important battle during the "campaign of France," and was present at the first occupation of the French capital. In 1815 he was appointed governor of Cherson and the Crimea. He caused Odessa to be made a free port, and received in 1822 the title of governor of New Russia. The next year he lost Alexander's good graces, and was recalled to service only on the accession of Nicholas, whom he accompanied to Moscow to be present at his coronation. In 1828 he served in the war against the Turks, was intrusted with the defence of Wallachia, worsted the enemy in several encounters, and received the command of all the Russian troops in the Danubian principalities; but Diebitch having been promoted to the chief command, Langeron, who was his senior in rank, declined serving under him, and retired to St. Petersburg.

LANGHORNE, JOHN, an English poet and miscellaneous author, born in Kirkby-Stephen, Westmoreland, in 1735, died in Wells, Somersetshire, in April, 1779. He took orders, and afterward went to Cambridge, where he supported himself by teaching in a gentleman's family. On account of an unfortunate attachment to the daughter of his employer he left his situation and went to London, where he wrote for the periodical press, obtained the curacy of St. John's, Clerkenwell, and was appointed by Dr. Hurd assistant preacher of Lincoln's Inn. In 1765 he published a short poem entitled "Genius and Valor," to defend the Scotch against the aspersions of Churchill; for this he received the degree of D.D. from the university of Edinburgh in 1766, and in the following year he married the lady to whom he had previously paid unsuccessful suit. She belonged to a wealthy family, and the living of Blagden in Somersetshire was purchased for her husband; but she died within a year in child-

bed. Langhorne then removed to Folkestone, where, in conjunction with his brother William, who held a curacy in that town, he wrote his translation of Plutarch's "Lives" (1771), the work by which he is best known. He married again, and lost his second wife also in childbed in 1776, an affliction which is said to have led him into intemperance. In 1777 he obtained a prebend in the cathedral of Wells. He was a voluminous writer of tales, short poems, and sermons, which are little valued. A collection of his poems with a memoir of the author was published by his son in 1802.

LANGLANDE, LANGELANDE, or LONGLAND, ROBERT, the supposed author of the "Vision of Piers Ploughman," born in Cleobury Mortimer, Shropshire, in the first half of the 14th century. Nothing is known of him except from traditions current at least as early as the 16th century, according to which he was educated at Oxford, and became a monk of Malvern. The familiarity of the author with the Scriptures and the church fathers indicates that he was an ecclesiastic; several local allusions in the poem, and the fact that its scene is the "Malverne hilles," prove that it was composed on the borders of Wales; and internal evidence fixes its date at about 1362. It narrates the dreams of Piers Ploughman, who, weary of the world, falls asleep beside a stream in a vale among the Malvern hills; and while satirizing in vigorous allegorical descriptions the corruptions in church and state, and the vices incident to the various professions of life, and painting the obstacles which resist the amelioration of mankind, it presents the simple ploughman as the embodiment of virtue and truth, and the representative of the Saviour. Its ancient popularity appears from the large number of MS. copies which still exist, most of them belonging to the latter part of the 14th century. It was a favorite of religious and political reformers, and several imitations of it appeared, the most important of which was "Piers Ploughman's Crede," written about 1398 by some Wycliffite, assailing the clergy, and especially the monks. In 1550 the "Vision of Piers Ploughman" was printed by the reformers, and so favorably received that 3 editions were sold within a year, and the name of the ploughman is often introduced in the political tracts of the 16th and 17th centuries. This poem is a remarkable example of a system of verse, derived from the Anglo-Saxons, and marked by a regular alliteration instead of rhyme. There are two classes of manuscripts, which give the text with considerable variations. The best edition both of the "Vision" and the "Crede" is that of Thomas Wright (3 vols., London, 1856), with notes, a glossary, and variations.

LANGLES, LOUIS MATHIEU, a French orientalist, born near St. Didier, Aug. 23, 1763, died Jan. 28, 1824. He studied Arabic and Persian under Silvestre de Sacy, and in 1787 published a French translation from the Persian of Tamerlane's "Political and Military Institutes," sup-

posed to have been written by Tamerlane in the Mongol language. He was intrusted with the publication of the Mantchu-French lexicon by Father Amiot, which he accomplished with accuracy and success. He induced the French republican government to establish the special school of oriental languages, which is still in existence. He was appointed its first administrator, and professor of the Persian, Malay, and Mantchu, but he taught only the first of these languages.

LANGRES, a fortified town of France, in the department of Haute-Marne, built on a steep hill on the left bank of the Marne, on the railway from Paris to Muhlhouse, distant from Paris 185 m.; pop. in 1856, 8,570. Next to Briançon it is the most elevated town in the empire. The most important manufacture is cutlery. Langres has been the see of a bishop since the 8d century.

LANGTOFT, PETER, an English chronicler, so called from the parish of Langtoft in Yorkshire, flourished in the latter half of the 13th century and the commencement of the 14th. Little is known of his life beyond the fact that he was a canon regular of the order of St. Austin, and produced a translation from the Latin into French verse of Bosenham's "Life of Thomas à Becket," and a French metrical "Chronicle of England," from Trojan times to the end of the reign of Edward I. The manuscripts of the latter are preserved in the Cottonian collection in the British museum, and among the Arundel manuscripts in the same repository. The "Chronicle" has been rendered into English verse by Robert de Brunne.

LANGTON, STEPHEN, an English prelate, born probably in the first half of the 12th century, died in Slindon, Sussex, July 9, 1228. He was educated at the university of Paris, and eventually became canon of Notre Dame and chancellor of the university. Visiting Rome in 1206, he was made a cardinal by Innocent III., and in the succeeding year was consecrated by him archbishop of Canterbury, to which see he had been elected at the recommendation of the pope, and in opposition to the claims of John de Gray, whom King John of England had compelled the monks of Canterbury to elect. This circumstance gave rise to the quarrel between John and Innocent, one of the consequences of which was that Langton was kept out of his see until the submission of the king to the pope in 1213, after which he was acknowledged archbishop of Canterbury. In the same year he joined the confederacy of barons opposed to the misgovernment of John, and at a meeting of the heads of the revolt in London urged the restoration of the charter of Henry I. He adhered faithfully to his party throughout the struggle, and for his refusal to excommunicate the barons, at the command of Innocent, was suspended from the exercise of his archiepiscopal functions. Little is known of his subsequent history. He was reputed a man of great learning, and was the author of several theological treatises.

LANGUAGE (Lat. *lingua*, anciently *dīngua*, tongue), in general, the manifestation of human thoughts and feelings by articulate sounds. The various names which designate it are derived in most languages from roots signifying the functions and properties of the tongue: thus, Arab. *lisān*, language, *laqlaq*, tongue; Armen. *lisen*, Slavic *iasik* (originally *liae-ik*), from Sans. *lih*, to lick, taste; Lat. *loqu-ela*, of the same root as Gr. *logos*, speech, reason; Sans. *rasat*, speaking, sounding, and *rasana*, sound, tongue, taste, from *rasa*, to sound, taste; Gr. *γλῶσσα*, tongue, language, analogous to Slav. *glos*, *glas*, sound, voice, Welsh *llais*, voice, and Coptic *las*, language. Wilhelm von Humboldt defines language to be "the breaking forth of the power of speech, according to the mental cast of a people," thus giving a paraphrase of the German *Sprache* (composed of *aus*, out, and *brechen*, to break), analogous to the Anglo-Saxon *spæc*, speak. The Latin *sermo*, discourse, consists of *ser-ere men-tem*, to sow or scatter the mind; thus, also, *di-ser-ere*, to sow or scatter about, to discourse. The German *Rede*, speech, coincides radically with the Greek *ῥέω*, to flow, speak, and *ῥήσω*, to break forth, proclaim, whence *ῥήτωρ*, speaker; and with the Latin *reor*, to think, and *ratio*, reason. The French *parole*, and Spanish *palabra*, word, come from the Latin *parabola* (Gr. *παράβολη*), a comparison. These and all other words in other languages, derived from the name of the tongue, are symbolic, and serve as examples of the formation of words in general. While synonymous or related in respect of signification, they are heteronymous or heterophonous according to the radical sounds or syllables from which they are derived.—Philology is a term concerning the meaning of which there is little agreement among its votaries. Plato meant by it love of speech, Socrates love of philosophical discussion, Isocrates and Aristotle love of knowledge, and the Alexandrians love of books. The Romans translated it by *eruditio*, *doctrina*, *literarum studium*, and *cognitio*. In the middle ages it was applied to the study of Greek and Latin writers, or to the knowledge of languages and archæology in general. To Fr. A. Wolf, it was all learning pertaining to Greek and Roman antiquity; to Boeckh, the knowledge of the whole life and activity of any people at any definite time; to Matthiæ, the study of the Greek and Latin languages and antiquities; to Müttzell, the science of verbal signification, or of the manifestation of the human mind by language; to K. O. Müller, the history of mankind and the full conception of ancient spiritual life; to Schelling, the construction, history, and contemplation of works of art and science; and to Milhausen, the science and art of education, or of conveying instruction to others. Others define philology as research into the languages of cultivated nations, and into language as such, in order to recognize from its essential characteristics the nature of our intellectual powers. Others restrict it to certain particular languages, as for

instance to the Hebrew, qualifying it by the epithet "sacred." Modern writers especially limit the term to such languages and literatures as have attained a permanent form, and are not subject to further fluctuations. Ancient philosophy comprehended what we now call physiology, psychology, and philology. To avoid ambiguity it would be advisable to call the science of language glossology, under which are included both the nature of language as such, and its various developments by different nations in particular languages, examined with a view to acquiring a knowledge of the laws of the human mind. Philology is thus confined to the study of written monuments.—Grammar, as usually defined, is the art of speaking and writing correctly, and embraces the rules for the proper use of any language. It was one of the 8 branches of the *trivium* of the middle ages, which with the 4 branches of the *quadrivium* constituted the 7 liberal arts of the Alexandrian Greeks. It is commonly divided into 5 parts: orthoëpy (right speaking); orthography (right writing); etymology (derivation of words); syntax (Gr. *σύν*, together, and *τάσσω*, to put), which treats of the structure of sentences; and prosody (Gr. *προς*, for, and *ᾠδή*, a song), which treats of the quantity and accent of syllables and the laws of versification. Beside the special and peculiar grammars of each language, the science of comparative, historical, or philosophical grammar has in the present century made great progress. It treats the essential and common characteristics of human expression, the whole art of the communication of thought by signs. In its widest compass, it gives the analysis of every sentence, shows the several classes of words which correspond to the several classes of ideas, and the various modifications which words receive, or the different modes of arrangement of which they are capable, in order to express all the modifications of thought; it considers alike speech, writing, and gesticulation as modes of expression, each of which it aims to decompose into its simplest elements; it follows words through all their transformations and compositions, and penetrates to the simple and fundamental ideas represented by their roots; it develops the various significations of words, one from another, by virtue of the relation of resemblance or contrast between them, which gives rise to figures of speech; it seeks after the mutual relations of speech and thought, traces the natural symbolism in language, and shows that its formulas are not only means for preserving ideas, but also instruments for acquiring new ones; and it goes back to the origin of language, and by a wide comparison illustrates its growth, common qualities, and various groups and classifications from the remotest time. Though all of these questions form parts of the same science, they have rarely been treated together in grammatical works. The first alone has universally been included; the second has usually been added; Condillac and others embraced also the last. Dumarsais was the first

who aimed to treat them all, a project which was more successfully carried out by Court de Gébelin. He decomposed words into their last elements, showed the origin and significance of these elements, and then traced them through various languages. The essential elements of language are substantives and attributives. Every thing else is invented only for ease, despatch, or ornament. Substantives or nouns are the names of objects, of things that either exist or are conceived to exist, and they do not of themselves mark either quantity, quality, action, or relation. They are distinguished as proper, designating single individuals, as Cæsar, Henry; or common, applicable to a class, as animal, house. They may admit of modifications by gender, those which denote male beings being of the masculine gender, those which denote females being feminine, and those which denote neither being neuter. In this respect, most languages deviate more frequently than the English from the order of nature, and make many inanimate substances in which sex has no existence either masculine or feminine. They are modified also by number, to distinguish unity and plurality; and by case, to show various relations between the noun and other words in the sentence, usually indicated in English by prepositions, but in the classical and many other languages by terminations. The pronouns are words invented to sometimes supply the place of nouns. They are short words, having no meaning in themselves, but having the full meaning of the substantive which they represent, the constant repetition of which is thus avoided, when they are substituted for it in the immediately subsequent members of a discourse. Like the noun they admit of number, gender, and case; and they are also distinguished as of the first, second, or third person, according as they designate the person speaking, the person spoken to, or the person spoken of. Attributives are in general words which are not expressive of things that exist or are conceived to exist, but of their quantity, quality, action, or relation. They are either verbs, participles, adjectives, or adverbs. A verb affirms an action, done or suffered, or a state of being, and is accordingly active, passive, or neuter. The condition and time under which this action or state occurs is indicated by modes and tenses. Beside the present, past, and future, there are other tenses, varying in number in different languages, made by combining some conditional circumstance with one or all of the divisions of time, as for instance whether the action is conceived as completed or not at the time spoken of. Both the tenses and modes, the latter of which affirms the action of the verb, either directly, or as a matter of possibility or hypothesis, or as a command or request, have been variously classified. In English there are usually reckoned 6 tenses and 4 modes, which are illustrated in the following 10 forms: I write or am writing, wrote or was writing, have written, had written, shall or will write, and shall

have written; I write, may or can write, write thou, and to write. Verbs are also inflected to distinguish number and person. According to Dr. Hunter, every verb is expressive of an attribute, of time, and of an affirmation, and if the affirmation be taken away there will remain the attribute and the time, which together constitute a participle. The English has the present and the past participle, as writing, written, but no future, which is found in the Greek and Latin. An adjective is distinguished from a participle as implying only an attribute. It designates the qualities, and not the acts or motions, of substances. These qualities being the same, whether in male, female, or inanimate objects, the adjective should strictly admit of no variation for gender, though the English is exceptional in making none. The qualities, however, may exist in different degrees in different objects, and hence what are termed the three degrees of comparison, as wise, wiser, wisest. Adverbs are the attributes of verbs, qualifying the action which they express. They indicate quantity, quality or mode, relation, time, space, &c., as moderately, quickly, more, when, upward. Auxiliary parts of speech are the article, conjunction, preposition, and interjection. The article defines and points out objects as distinguished from others of the same class. The indefinite article "a" or "an" separates but a single unspecified object from the class to which it belongs, and cannot be applied to plurals. The definite article "the" is applied specifically to one or more objects, pointing them out as those of which alone in their class something is affirmed or denied, and therefore belongs equally to both numbers. Conjunctions conjoin sentences, prepositions conjoin nouns and pronouns, and interjections are unconnected words, having no relation to the syntax of a sentence, the instinctive and inorganic utterances of sudden sensation or vehement passion. Horne Tooke describes them as the brutish and miserable refuge of the speechless, and says that the whole dominion of language is erected on their downfall. In the Chinese grammatical system, every root is a word, and obtains the character which we denominate a part of speech merely by its position relatively to the other words in the sentence.—Etymology (Gr. *ετυμολογια*, true, from *τυπνω*, to strike, print; hence, imprinted, true to the original) is that branch of glossology which relates to the origin of words. As one of the parts of grammar, it is restricted to the theory of inflections, that is, to the declension of nouns, the declension and comparison of adjectives, and the conjugation of verbs. Etymon is the term used to designate the type of the root, i.e., its essential form; thus: Gr. *μορφη*, an anagram of the Latin *forma*; Ger. *Topf*, inverted in the Eng. *pot*. Many words in all languages are mere dead matter, incapable of analysis, and imported with the things they are used to name, just like labels affixed to articles of merchandise. Such are, from names of places, bayonet, from Bayonne; calico, from Calicut;

milliner, from Milan; pistol, from Pistoja; china, nankin, arras, &c.; from names of men, guillotine, mackintosh, silhouette, raglan, &c. Many are quid-pro-quoas, as horse radish instead of mer radish or sea root (from *radix*, root, preceded by *mare*, sea, mistaken for the English word of the same form); rosemary, from *ros marinus*, sea dew, and not from *rosa Maris*; butterfly for flutterfly; buck-wheat for beech-wheat (Anglo-Sax. *doc*), &c. Many are regarded as Anglo-Saxon without being so in fact, as butter, from *βουτ* and *ρυπον*, cow-cheese; and squirrel from *σκίουρος*, shadow-tail. Many words of the same form come from different etyma; thus, sound, from *sanus*, healthy, *sinus*, gulf, *sonus* (*tonus*), noise, *fundus* (Fr. *sonder*), depth; Ger. *kosten*, from either Lat. *gustare*, to taste, or *constare*, Ital. *costare*, to cost.—Speech is the characteristic of man. According to Jean Jacques Rousseau, culture is indispensable to the contrivance of language; but language is not less necessary to the development of culture. Unable to solve the problem of the origin of language, Plato supposed it to be divinely inspired. The same view has not been uncommon among Christians. But Democritus, Epicurus, and Cicero among the ancients, and Monboddo, Adam Smith, Dugald Stewart, and most modern scholars, favor the natural creation of speech by the innate faculties of man. The records of history give little light on the subject. Plato and the other Greek philosophers were disqualified for obtaining an adequate view of the nature of language by the patriotic narrowness which made them look with contempt on foreign nationalities. Some great principles of glossology are however found in Plato's "Cratylus," a disputation between Socrates, Cratylus, and Hermogenes on the propriety of names. Cratylus asserts that every thing has a name belonging to it by nature, and not by an arbitrary convention. Word-framers, who express the connection between vocables and objects, are regarded as the rarest of artists. Homer distinguished the names given by the gods from such as are used by men: "whom the gods call Xanthus, but men Scamander." Some of the examples of etymology given in the "Cratylus" are superficial, and some profound; thus: *ψυχη*, soul, from *φύσιν οχει και εχει*, it conveys and keeps nature; *χρονος*, time, from *κρουνος*, stream, equivalent to Ger. *ge-ron-nen*, run; *Πλουτων*, from *πλεος*, full, and *δουνα*, to give. An influence on the formation of words is attributed to gesticulation; sagacious hints are given on the meaning and changes of sounds; and barbarian languages are justly appreciated for the natural significance of their words. Pythagoras, when asked what being he thought to be the wisest, replied: "First, the number, and secondly, that which has given names to things." By the former he meant the word, by the latter the soul. The words for number, word, and god all have the same root, *κν* or *γν*, as in the words *numerus*, *nomen*, and *numen*. The guttural sound, which disappears in these examples, re-

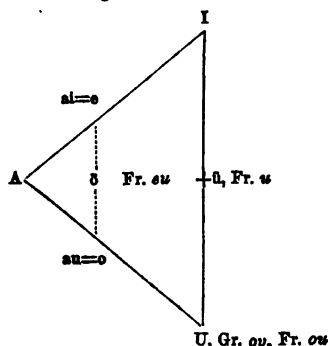
mains in *γνωμη*, *cognoscere*, Ger. *kennen*, and Eng. *know*, which are akin to *gignere* and *generare*.—Manifold opinions have been advanced concerning the original language. Herodotus relates that Psammetichus, wishing to learn which was the first language, ordered two babes to be brought up without ever hearing a human sound. They were nurtured on the milk of goats which were brought to them to suck, and after two years pronounced first the word *bekos*, which in Phrygian meant bread. The Egyptians, therefore, according to Herodotus, admitted that the Phrygians were more ancient than themselves. The preëminent antiquity of the Hebrew has been often maintained; that of the Greek by Peteric, Latin by J. Hugo, Cymbrio by Mylius, Scythic by Bodhorn and Saumaise, Ethiopic by Reading, Chinese by J. Webb, Basque by Larramendi, Breizad by Latour d'Auvergne, Flemish by Van Gorop, Swedish by Rudbeck and Stjernhjelm, and Celto-Scythic, the mother of the Slavic, by Kirchmayer. Grotius, De Gëbelin, and others, find traces of the primitive language in all others. It was the opinion of Klopstock that writing and language were invented together and simultaneously by several nations. The roots of languages shed much light on the operations of the human mind. The following are examples taken from the languages most generally known: *Sent-ire*, root *set*, analogous to the compound *ta-n-g-ere*, *tao-tus*, touch; *in-stinct*, stung-in, *in-tu-eri*, &c. *Per-cip-ere*, seize through; Ger. *emp-find-en*, to find-in, *An-schau-ung*, on-see-ing, &c. *In-tel-lig-ere* (inter-lig-are), to under-stand, Ger. *Ver-stand*, and *Ver-nun-ft* (*ver-nehm-en*, *per-cip-ere*, though used for reason); *co-git-are* (*cum-agit-are*), *con-tem-pl-ari* (*cum-ten-dere* and *plus*). *Ju-dic-are* (*justum indic-are*); Ger. *Ur-theil* (or-deal); *κριν-ειν*, *dis-cern-ere*; *re-præ-sent-are*, Ger. *sich vor-stell-en*; *re-flect-ere*; *con-cip-ere*, Ger. *be-greif-en* (be-gripe); *denk-en* (to think), of the same root with Lat. *doc-eo*, *dic-o*, *doc-eo*, *διδωμι*, Eng. *tok-en*, *sig-num*. *Γινωσκειν*, *co-gnosco*, *cen-seo*, Eng. *ken*, *know*; and *διαβαιναι*. Lat. *sci-o*, whence Eng. *ski-ll*, separate. *Mod-itari*, *met-iri*, *men-s-urare*, *med-ius*, *mod-us*, *mod-ius*, &c., the root of all of which signifies middle, and therefore measure; hence *mens*, *mon-eo*, Ger. *mein-en*, *Mann*, *Men-sch*; Eng. *mind*, *mean-ing*, *man*; Lat. *ho-mo(n)*, *hu-man-us*; for man is the measurer with his *men-s* (mind) and *man-us* (hand). Romanic *pens-are*, from Lat. *pend-ere*, *pond-erare*, to weigh, and *in-tend-ere*, to apply (from *tend-ere*, at-tend-ere, to stretch), that is, to stretch the power of the mind. Gr. *Εἶδω*, Lat. *vid-eo*, and *iden*, Ger. *vis-sen*, Eng. to *wit* and *wise*; Sans. *vid*, Zend. *ved*, Slav. *vid-eti*, to see, know; hence *ceda*, science, and Sans. *buddh*, to discern, &c. These words are examples of two important principles in the labyrinth of languages, namely: that all so called metaphysical terms are in reality metaphorical expressions of material acts and properties to which the mind likens its own operations; and that languages do not diverge in the

expression of the single categories of sensible things, but only in the application of these primitive expressions as names to other things. Both primitive and cultivated men are impressed by the same peculiarities of things, but the latter depend mostly, not on what the mind produces by its own exertion, but on what they receive passively as imposed on them by society. Primitive men were more sensitive and perceptive, and almost simultaneously reacted on their experiences. Their language was spontaneous and almost simultaneous with the impressions made by objects. Hence their expressions were true etyma, or imprints on the mind, shown externally by vocal sounds. The uses of these etyma are modified with the progress of culture. As each true word, in its original acceptation, coincides with the feeling or idea that gave it birth, and as men vary in the cast of their sensibility and mind, the uses of the etymic words are various. Language in its totality, as well as every fibre of it, is a symbol of mental activity and a mediator between different minds. Man is a mirror of all objects; he digests and assimilates in his mind the material furnished by his senses, and then communicates it by speech. Language, therefore, is the acme of all human energies, a memento of all times passed by a people and by each man; their monument after both disappear from the theatre of life. The deeds of men are strung on it, like beads on a thread. Our present social, religious, political, scientific, and artistic culture is the complicated result of all that has been lived through by our common ancestry; only mixed, digested, filtered, modified by the assimilating power of time. If even the works attributed to Orpheus, Homer, Manu, Vyasa, Valmiki, Ossian, Shakespeare, and to the author of the *Nibelungen-Lied*, are each suspected to be the effusions of several men, how could we now disentangle the conglomerate mass of all languages into the several contributions by each nation or genius? Speech, as a necessary function of the human faculties, arose instinctively, and single languages were formed by the peculiar choice or caprice of their speakers, as influenced by various agencies. Every people, according to its own genius, amalgamates the phonetic element with its own feelings and conceptions into an organic unity. The forms of language also react on the mind. Our very thoughts are faint without their union with the symbols of speech; the operations of the brain and heart, the articulations of the vocal organs, and the reception of sounds by the ears, being an inseparable synergy. Thought crystallizes the momentum of the mind and utters it as a word; and the atmospheric air is made to vibrate with mental energy. Speech is as much a function of thinking as breathing is of living. It is not a mere means of intercommunication, but also of self-instruction. The peculiar qualities of objects lead us to distinguish, while their common qualities lead us to combine. We ever strive after a clearer and more comprehensive unity. The sound is the

symbolic representative of the object, of its mental picture and of the sympathetic effort of the organs both of speech and of hearing. In no other product of mental activity is there a more complicated quantity of well defined modifications, than in this trinity of object, mind, and voice, one and indivisible. The word itself becomes in its turn a new outward object, linking the world with man and men with each other. Speech is developed only in society, and men can neither understand themselves nor their own ideas fully except by trying the intelligibility of their words on each other. Mutual understanding sharpens the intellectual powers of speakers, so that with the increase of social intercourse the language gains in perfection. The power of thinking needs to be kindled by the homogeneity of general thought, and tested by the heterogeneity of individual thought. By society and by schooling a whole people becomes habituated to the limits of the preëxisting language, whatever that may be. Since every nation exhibits in its language its peculiar intellectual and sensitive characteristics, the acquisition of a foreign language affords us a new point of view, from which we perceive some features of the world more clearly than by means of our vernacular.—Without entering upon the anatomy, physiology, and acoustic theory of the organs of speech, it is sufficient to remark here that they consist of what may be termed three sluices which intercept and modify the column of air breathed from the lungs. The most complicated of the three organs is the *guttur*, vaguely named throat (and even palate by some). The tongue, though the most glib part, is unable of itself alone to interrupt the air, and needs the coöperation of the immovable teeth, with which it forms the second sluice. The lips constitute the outward gate. The *guttur* communicates with the legitimate passage of air through the nose, which, however, is a mere accessory. The voice (Lat. *vox*, a collateral form of *fauz*) is a sound produced in the throat by exhaled air, and further modified into specific sounds by the organs of speech. All the elementary sounds in speech are either vocals (vowels, *στοιχεῖα φωνηέντα*) or articulated, organic (consonants, *συμφωνά*). Owing to the solidarity or mutual influence of the organs, while engaged in their several phonetic functions, the exact number of the sounds found in all languages cannot be absolutely fixed. It may amount to 50, inclusive of all shades; Volney exaggerates it to 60. The following table exhibits the modifications of the organs while the 5 vowels are produced, giving to them what is termed the continental pronunciation:

	I	e	A	o	U
Aperture of mouth	3	4	5	2	1
Width "	1	2	3	4	5
	Kampelen.				
Fanccs	highest	midling	lowest	Chiadni.	
Tongue	raised	easy	low	Krug.	
Lips	exp'nd'd	.....	pointed	Boeckh.	
Tongue	forw'd.	.....	backward		

The mutual relations of the vowels are exhibited in the following scheme:



Floorke arranged the vowels on the musical scale thus:

u o a o ē ē ū e i
O G Ū Ē flat F G A Ō

The following analogies may be drawn between the vowels (according to the continental pronunciation) and the categories of things:

I, red, triangle, hot, sharp pain. } e, orange, trapezium.
A, yellow, circle, temperate, health. }
U, blue, square, cold, dull pain, shudder. } o, green, ellipse.

The vowels express instinctive emotions, as in interjections; they are, so to speak, the cellular tissue in the body of language, the potential element in the genesis of consonants; they render the consonants utterable as syllables, making speech organic, being as it were the cement between the consonants. They make a language musical, and embellish it, unless used in profusion. They are also grammatical and phonetic expedients. They do not betoken clear conceptions, although F. Bopp and others assert the contrary. In the more cultivated languages they are mere fragments of words or of decayed consonants; thus: Eng. *I*, for *ie*, *ego*; *a*, for *an*, *one*; Ital. *o*, for *od* (Lat. *aut*), and *e* for *ed* (Lat. *et*); Fr. *a*, has, and *y*, there. *J* and *y* are changes from *c* and *g*, as in Fr. *fait*, *royal*, from Lat. *factum*, *regalis*; Eng. *said*, *say*, *flail*, from Ger. *sagte*, *Fliegel* (Lat. *flagellum*); Ger. *gebenedeyt*, from Lat. *benedictus*; *u* and *v* also are changes from *c* and *g*, as in Portug. *doutor* from Lat. *doctor*, Ger. *bauen* from Lat. *pastum* (*pango*), and *Frau* from Lat. *Virgo*; they are substituted also for *b*, as in Span. *deuda*, Lat. *debitum*. These examples betray a near affinity of the extreme vowels with gutturals, a phenomenon most remarkable in the Arabic *ain* and *ghain*. The *I* and *U* also become collateral consonants, as *J*, *V*, and *W*. The indifferent sound, which Lepsius calls the father of the other vowels, and which is, as it were, the nebular matter of all the utterances of the human voice, is the French so called mute or feminine *e*. It is represented in Hebrew by the *Sheva mobile*, indicated by two dots placed vertically under the consonant. It is a free, easy breathing, a sigh-like sound. It is the gray color in

speech. The alphabet, as now used by the English, Germans, and some other European nations who have added *J*, *K*, *U*, *W*, *Y*, and *Z* to the Latin of the golden age, may be thus arranged:

ELEMENTS.				
Musical.	Logical, articulated.			
Vocals.	Labials.	Gutturals.	Lingual.	Dentals.
A	B	C		D
e	f	G h		
I (y)	.....j	K	L	
	M		N	Liquids
o	P	Q	R	
U...	....v....	w	X	s T
(y)				z

The letters in capitals designate the essential sounds. *A*, as the central vowel, leads the alphabet; *I* and *U* are the extreme vowels; *O* (*K*, *Q*), *P*, and *T* are the *consonantes tenues*. Next in importance are *G*, *B*, *D*, as *consonantes mediae*. The weakest are *h*, *f* and *v*, *s* and *z*, as *aspirata*. The liquids are *L*, *M*, *N*, *R*. The recently contrived vocal consonants are *j* and *w*. The *y* is placed after the *I*, to show that the English use it instead of the German *j*, and also as a substitute for the Greek *Y*, as well as for other vowels; thus: *yes*, Ger. *ja*; *say*, mighty, modesty, from Ger. *sag-en*, *mächtig*, Lat. *modestia*; and for the Greek *v* as well as *uia*, as in *sympathy*. The *X* is cut in twain, since it is a sign of the double sound *ca*. The *N* is on the same line with *X*, without being severed, to show that it belongs to both conterminous columns; for it is akin as a liquid to *L*, *M*, and *R*, while it is the representative of nasality and the genuine sign of negation. It is a sort of electricity among the sounds of language, and as such is represented in 5 ways in the Devanagari (as guttural, palatal, dental, cerebral, and *asthnus-vāra*). In Portuguese it is often marked by a *tilde*, in Arabic by the doubling of the three vocal sounds, called nunnation; and in Greek it is written *γ* before gutturals, as in *αγγελος*, angel. The horizontal lines also offer analogies. The upper line contains the essential elements of the whole alphabet; the consonants of the second line are often interchanged, and *gh* in many English words is pronounced like *f*; and the liquids have peculiar affinities. The languages of the South sea islanders and of many of the tribes of American aborigines abound in vowels. The consonantless Greek words *aei*, *aiw*, *ew*, *eww*, *eww*, &c., originally began with a labial aspirate or a digamma. The most vigorous and significant words are those which grow from a guttural germ. From the original laws of vocal expression, the significance of elementary sounds may be determined, and the character of a language may be evolved from its alphabet. The name alphabet was first introduced by the fathers of the church.—Those nations which have acted the most prominent parts in history speak the languages which

contain most of the organo-genetic elements, or germs of words, in the simplest and least disguised form. These languages are irrefragable proofs of the highest intellectual and æsthetic development under the most favorable circumstances. Preëminent in this respect is the Indo-European family. All genuine roots are monosyllabic. The rabbinical theory of dissyllabic roots rests on a hypothesis, and mistakes root for theme. Roots, stems, themes, etyma, &c., are too commonly confounded. There are no specific roots in specific languages. Germ is a fitter term, as it includes complex so called roots and themes, and answers to what G. Stjernhjelm described as *materia prima, quæ capax omnium formarum, nullique perpetuo pertinet, ipsa in casu immobilis*, &c. H. H. Wilson says: "The *dhātu* or radical of the Sanscrit, although in strictness it fulfils no specific grammatical function, and is equally the theme of a noun as of a verb, may be most conveniently considered as identical with the latter, as the crude verb. . . . As arranged in the glossaries of roots, it is usually interpreted by an active or abstract noun in the locative case; as *gam-gatau*, in going; *chū-satā yān*, in being, &c.; intimating one general idea to which the different modifications in its derivatives may be referred." All the roots, with a few doubtful exceptions, as *andol*, swinging, *kumdl*, playing, &c., are monosyllables; many of them are uniliteral, as *ī*, going, *ṛi*, injuring, &c.; the greater number, however, terminate in consonants, as *tark*, discussion, *gadah*, sounding, &c. The whole number is about 1,900. In the original lists the roots have attached to them supernumerary letters, as signs of the class of conjugation, or of peculiarities of inflection. Fr. Rosen gave 2,354 Sanscrit roots, of which 1,636 are counted once, and 718 twice or several times, with various significations. Roots are deduced from derivatives; some are substantives (as *mud*, joy) from infinitives of verbs. Some Sanscrit roots contain 4 consonants, as *mrak's*, to anoint. The following will serve as other examples: *nā*, to draw (Lat. *ne-re*, to spin); *trā*, to go over (Lat. *tr-ans*); *gai*, to sing (Lat. *ca-nere*); *sā*, to destroy (Lat. *se, de*); *ad* (Lat. *ed-ere*); *arte*, to honor; *pat* (Lat. *pet-ere*), to fall; *svap*, Lat. *sop-or*; *bhaktā*, to eat (Lat. *vesc-i*); *sangrām*, to fight (Lat. *sim-ul carp-ere*). We need not, however, wander to the Ganges in search of roots, since they may be clearly recognized in the Latin, Celtic, and other European languages of the Indo-European family. Here is one instance: *Cor*, *hear-t*, *cor-a*, *kernel*; *gra-num*, *grain*, *corn*; *gor-men*, and *gor-o*, *car-ry*; *or-o*, *or-esco*, *gra-ndis*, *gra-dior*, Sans. *kri*, to act, do, make, &c. In short, OR as a root grows from the germs O and R, and is a symbol of the union of the essential element O with the phenomenal R, that is, of creative cause. This is one of many examples which show that we ought to found language on the theory of germs rather than of roots simply. All genuine roots in all languages must be identical. Man has everywhere essentially the same reason, the

same external senses and organs of speech. There is no appeal from an external law. As there are three sluices in our vocal apparatus, so there are three principal vowels, and three groups of articulate sounds. There are also three categories of ideas and of essential phenomena in nature corresponding to the triad of sounds; thus: 1, cause, in, corresponding to guttural; 2, effect, out, which may be either (1) living, moving, corresponding to labiality, or (2) dead, standing, dormant, corresponding to dentality. The last, however, is alloyed with linguality, in token of there being no absolute death in nature. All geometrical, anatomical, physiological, and other qualities, positions, relations, and functions of the organs of speech, when compared with each other and with the other organs and parts of the human body and with the categories of things external to man, are symbols and prototypes of the significance of the germs of speech. These germs are the canon, all the deviations from which are but degrees of corruption, just as all deviations from a line (superfluously called straight) are degrees of crookedness. The machinery on which languages are racked, and its roots variously modified and combined, consists of the following 11 devices, illustrated by examples: prosthesis (Eng. *g-lad*, from Lat. *lat-us*); aphæresis (Eng. *tin*, Lat. *s-tan-num*); syncope (Eng. *wood*, *weed*, from Ger. *Wald*, *wild*); epenthesis (Lat. *spe-c-us*, Gr. *spe-er*); diplasiasmos (Ital. *legge*, *ubbidire*, Eng. *matter*, from Lat. *lego*, *obedire*, *materia*); apocope (Lat. *mel*, Gr. *μέλι*; Ger. *bieder*, honest, from ancient *bider-ber*); paragoge (Lat. *decem*, Gr. *deka*; *cant-is*, Welsh *cant*); synæresis (*Cæsar*, *celestial*, from *Cæsar*, *caelestis*); diæresis (*repeal*, from *re-pel-ere*); metathesis (*corn* for *grain*; *fright*, Ger. *Furcht*); tmesis (*a nag* instead of *an ag*, Lat. *un-us eg-nus*; *an addor*, instead of *a nadder*, Lat. *natriz*). The mind imparts new significance to roots and words by applying them in accordance with their genetic import to new conceptions. Their somatic or literal meaning is transferred into a floating sphere of signification. Thus the words high, top, great, thick, heavy, fat, rich, bright, sweet, sharp, round, and the like, are used in opposition to low, base, little, thin, light, lean, poor, pale, bitter, blunt, flat, to denote every thing in the intellectual and moral realms which the mind conceives to have qualities similar to the qualities of matter designated by those epithets. Inversely, the application of gross, coarse, though collateral forms of great, may betoken just the opposite of what is venerable. The simple and general idea may be either individualized or assimilated. It is individualized by having its application restricted. The roots or etyma are thus transformed into various distinct words in the same and in different languages. Thus, Lat. *cap-ere* becomes *hab-ere* and Ger. *kauf-en*, &c., which are relatively translated by *acquire*, *keep*, *buy*. *Keep* is also translated by *serve-are*, *cap-ere* by *fassen*, and *kaufen* by *em-ere* (Anglo-Sax. *big-an*,

whence *buy*, which is *cap-ere* inverted). We thus obtain a series of intermediate meanings and diverse ramifications. The process of assimilation is when one idea is substituted for an analogous one. It is thus that we are all poets without knowing it, and are constantly using figures, tropes, and other stylistic machinery while speaking of trifling objects in the simplest words. Thus, Lat. *ira*, anger, is akin to *urere*, to burn; Lat. *odium*, hatred, *astus*, heat, and Ger. *essen*, eat, are akin to each other (thus we say that fire eats). So also the series *dol-ere*, *tol-erare*, *tol-ere*, and *tul-i*; and *gloria*, *clarus*, *color*, *calor*, Eng. *glare*, *glow*, Ger. *Glanz*, *Gluth*, &c. The genetic symbolism of sounds, things, and thoughts gradually disappeared, as the primordial poetry of the human mind was lost with the progress of fortunes and culture made by single nations and tribes. The generations which followed the first lively movement of the formation of language were bound to and by what their ancestors had accomplished. The tendency which the Greeks designated by *θεσιν* (by position or compact) becomes predominant over the early *φύσει* (by nature). New words, forms, and phrases introduced from foreign languages are assimilated to the vernacular, and adapted to its genius. Instances of this are the languages of western Europe, called modern in consequence of the date of this transformation. Great poets and authors exert a mighty influence upon this change. Could we trace the *papillons* of language from the egg through all their metamorphoses, we should have a historic picture of each respective people. The Chinese and the Sanscrit may be termed the poles in the sphere of language, showing the opposite directions of the one instinct of speech. As nations form various currencies from the same metal by impressing thereon their peculiar figures and devices, so do they frame their languages out of one common material. Leibnitz and others might have saved themselves the trouble of attempting to concoct a universal philosophic language. This universal language is the common basis of all tongues. Were we to lose all speech to-day, together with our acquired false notions concerning it, we should again contrive the same roots to replace it. For language is an organic result under the conditions of wisdom or ignorance, liberty or serfdom, good or bad taste, the glory or the shame of a people. —The number of languages cannot be accurately stated, for several reasons. Some are not known, and of many of the others our knowledge is not minute enough for the purpose of coördinating them; nor are the limits between languages, dialects, idioms, &c., accurately defined. Their number varies also with the different migrations and degrees of culture of races, nations, tribes, empires, &c. Adelung and Vater reckoned 3,064 languages and dialects, and Balbi about 2,000, 860 of which have about 5,000 dialects. Of these 860 there are about 58 in Europe, 158 in Asia, 115 in Africa, 107 in Australia, and 422 in America.

There is no prevalent system of classification either of languages or of races of men. As regards the area or distribution of languages in space, there are very widely extended regions with uniform or kindred languages, as the Slavic and Malay; while some small regions comprise many languages, as the Caucasus, northern California, and the country of the Orinoco. Languages are variously estimated when considered from different standpoints. They are either the parent of others, as Latin and Sanscrit, or derived from others, as French, Spanish, and Hindostanee; vernacular (native), or acquired by instruction or intercourse with strangers; popular (vulgar), as Prakrit, or learned, as Sanscrit; pure, as Chinese, or mixed, as most of the languages of Europe, the *lingua franca*, that of the Moors, and that of the negroes of Demerara (Dutch, French, Spanish, and Portuguese); living or modern, which continue to be spoken, or dead, as the Zend, Median, and Phœnician, or ancient, as Latin and Greek; sacred, as the Sanscrit, Hebrew, Latin, old Slavic, or profane, as the German and French; written or unwritten, as those of savages. A language may also be artificial or factitious, as the *Balaibalam*, contrived by Sheik Mohyi-Eddin in the first half of the 18th century, the grammar and dictionary of the imaginary language of John Wilkins (1668), and others. A strictly scientific classification of languages is yet a problem. F. Schlegel proposed 8 groups: the monosyllabic, disyllabic, and trisyllabic. A. Rémusat endeavored to demonstrate that none were monosyllabic, while W. von Humboldt affirmed that all arose from monosyllabic roots. Most of the names of nations are arbitrarily imposed, some by foreigners from hatred, others by natives from vain-glory; thus, the Samoyedes (self or man-eaters) are so called by the Russians, but they name themselves *Khasovos*, men; the Slavi call themselves so from *slowo*, word, or *ichloviek*, speaker, man; and they give to the Germans the designation of *Niemtsy*, mutes. Hayduk means robber; Bedouin, nomad; Frank, freeman, &c. The Osmanli, Usbeks, and Germans (*Deutsche*) so name themselves from their heroes. The Poles are named from *pole*, field; the Croats from *gora* or *karpas*, mountain. H. Steinthal distributes all languages into 18 groups, in 2 sections, viz.: A. Matter confounded with form: 1, no grammatical categories, only juxtaposition, as the Indo-Chinese; 2, no categories, but conjugating, some determining the relations by formation, some by prefixes or by adding vowels to roots, as the Malay and Polynesian; 3, languages of the Caffres and negroes of Congo; 4, category of being separated from that of activity, either by the combination of roots with the substantive verb, or by terminations, as the Manchu and Mongolic; 5, Turkish dialects; 6, Ural (or Finnic) dialects. B. Matter separated from form: 1, without distinguishing the noun from the verb, mere juxtaposition, as the Chinese; 2, incorporating words, as the Mexican; 3, combining many words, as the languages of

North America; 4, distinguishing noun from verb, as the Basque; 5, accumulating, as the Egyptian; 6, inflecting, with internal conjugation, as the Semitic languages; 7, inflecting completely, as the Aryan (Indo-European). We might make three divisions, according to the internal laws of the formation of speech, characterized respectively by: 1, internal flexion, with grammar and syntax; 2, unaltered words, with a strict syntax; 3, external addition or agglutination, with syntax. Considering, however, the diverse views of the most competent authors, the following classification will most nearly meet the demands on it. An assemblage of kindred languages is called a family or stock, *souche* by the French, and *Stamm* by the Germans, of which we may make 12, although the languages of America and Africa admit of subdivision into families: 1, Chinese, on whose essentially monosyllabic character Bergmann, Rénusat, and others raise some doubts, stating that its original words lost the final consonant in a manner similar to the French *il vient chez eux*, pronounced *i vic shè zò*; 2, Thibetan, with the Tangutan (of Sifan), containing some Chinese words, and related to the idioms spoken about the sources of the trans-Gangetic rivers; 3, Indo-Chinese (see INDO-CHINESE LANGUAGES); 4, Japanese (see JAPAN, LANGUAGE OF); 5, Dravidan (see INDIAN LANGUAGES, ASIATIC); 6, Tartaric, a very extensive family, which according to some writers includes the Thibetan, and according to others the Tungusic, Mongolic, and Turkish families; 7, Uralic, or Altai-Uralic, Ugric, Finnic, and Tchudic; 8, Indo-European (see INDO-EUROPEAN LANGUAGES), to which may be attached the Caucasian group; 9, Arabic, or Semitic (see SEMITIC LANGUAGES); 10, Malay, to which we attach the Polynesian; 11, American (see INDIANS, LANGUAGES OF THE AMERICAN); 12, African. The terms Iranian, as a name of the Indo-European family, Turanian, as that of the Tartaric, Uralic, Dravidan, and other families, and allophylic (*ἄλλος*, other, and *φύλη*, tribe, nation) employed as a synonyme of the latter, are vague. Every language is allophylic to all others.—The intimate connection of philology with glossology makes it impossible to separate their history, which begins with the edition of the Homeric poems by Pisistratus (about 550 B. C.). The outline which follows may be traced out more minutely by referring to the articles on distinguished scholars, on particular languages, and on associated subjects, as LITERARY HISTORY. The sophists were the first to investigate the laws of grammar and critically study ancient poems. Plato discussed the origin of language and the influence of Homer, especially in his "Cratylus." Aristotle's theory of language was the basis of all kindred inquiries before the opening of the Sanscrit mine. Philology became a specific pursuit about 300 B. C. at Alexandria, and about 160 B. C. at Pergamus, two rival cities in the arts and sciences. Eratosthenes of Cyrene (born 276 B. C.), the great astronomer and historian, is recorded to have been the first philo-

logian. Ezra began to collect the Jewish sacred books about 446 B. C. The Pentateuch was translated into Greek at Alexandria (about 270 B. C.) by the so called *septuaginta*. Other books were added to the canon at Jerusalem, which were also translated. Book-learning, under the name of polyhistory, predominated at that time over real knowledge. Greek literature was domesticated at Rome by Greek grammarians and philosophers. Atteius Philologus wrote an enormous miscellany under the title of *ῥῆγ*, "Matter." After the spirit of classical culture had departed, grammar, rhetoric, and verbal criticism were still cultivated under the Roman emperors in the schools of Athens, Rhodes, and Marseilles, Julius Pollux (about A. D. 150) compiled an *Onomasticon*. Others, most of them Asiatics, wrote on various subjects connected with language; thus, Origen (born 186) was the founder of biblical hermeneutics; Longinus (executed in 278) wrote on philology, Homer, rhetoric, and composition of words; Porphyrius or Malchus (born 238), author of the *Φιλολογος ἱστορία*, and of other works on similar subjects; and Proclus (412-'86), the last great Neo-Platonist, commented on ancient writers. The closing of the schools of Athens by Justinian (529) was a deathblow to the native culture of Greek literature, and philosophers sought the patronage of the Sassanides. Capella (close of 5th century) embodied the ignorance of his age in a sort of cyclopædia, and ancient philosophy gave its last sigh in the *De Consolatione Philosophiæ* of Boethius, who wrote in prison. Nine centuries of imperfect studies of philology follow this event, during which letters are fostered at Constantinople. From Photius (about 870), the great promoter of the schism in the church, whose *Myriobiblon* is a review of ancient Greek literature, till the 15th century, but few learned Greeks were known in Europe, and these chiefly in Italy. Hesychius, Suidas, and other etymologists and compilers of Greek vocabularies belong to this period. The Jews, in imitation of the Alexandrians, comment on their ancient writers at Cæsarea, Tiberias, and Babylon (until 1037), contrive the Mishna, the Gemara, and the Masora, introduce the vowel points into their language, and send scholars to Italy, Provence, and Spain. Haroun al Rashid (786-809), Almamoun, and other liberal Abbasside caliphs ordered the translation into Arabic of all esteemed Greek, Syriac, and Persian books, protected learned men of every country and creed, and founded schools at Bagdad, Bassorah, Bokhara, and other places, and provided them with great libraries and museums. In Spain, the 2d and 3d of the Abderrahmans (822-'52, 912-'61) and other enlightened Ommiades vied with the caliphs of Bagdad in encouraging learning, and established and collected libraries for 14 universities, the chief of which was at Cordova. Versions, paraphrases, and imitations of the works of Aristotle by Ebn-Sina (Avicenna), Ebn-Rashid (Averroes), and Moses Maimonides were made known in western Europe. The

Roman Catholic church, neglecting Greek letters, fostered the Latin studies of the Vulgate and of canonical laws. The Benedictines of Monte Casino (founded in 529) and other monasteries copied the best Latin authors. Theodore, an Asiatic Greek, introduced, while primate (668), both Greek and Latin works into England. The venerable Bede in England (672-735), and his disciple Alcuin of York (735-804), patronized by Charlemagne, residing at Tours, promoted the study of the ancients. The crusades (1096-1270) expanded the mind of Europeans, refined their manners by intercourse with the more cultivated oriental nations, introduced many inventions and improvements, and gave an impulse to commerce and geographical researches, which were still further promoted by the conquests of Genghis Khan (1206-'27) and of Kublai (1259-'94), opening a view as far as Japan. In imitation of the Arabs, medical schools were founded at Salerno (1100) and Montpellier (1150), and universities with the faculty of the 7 liberal arts at Paris and many other cities. Roger Bacon (1214-'94) opened new paths to inquiry by the study of nature and the languages. But while most scholars were exhausting their energies in dialectical quibbles, and civil law was studied at Bologna, Petrarch, Boccaccio, and Dante were reviving the genius of the ancient classics. Manuel Chrysoloras (1395) lectured with great success in many cities of Italy on Greek literature. Aurispa and others imported manuscripts. A galaxy of events, restorations, inventions, discoveries, improvements, and institutions of learning, commonly called the renaissance, dates from the middle of the 15th century. About 80 new universities were founded, and the number of public libraries was greatly increased. Prominent among the liberal patrons of learning were Alfonso V., king of Naples and Sicily (1442), Cosmo (1429-'63) and Lorenzo de' Medici (1469-'92), and Matthias Corvinus, king of Hungary (1458-'90). The fall of Constantinople (May 29, 1453) scattered the treasures of Greek lore over Europe. Greek works were printed in Italy in the original and in Latin versions, and Aldus Manutius published nearly 20 Greek writers before the 15th century closed. Johann Reuchlin (1455-1522), admired by J. Argyropoulos for his Latin translation of Thucydides, pronounced Greek like the modern Greeks, and also studied Hebrew. Erasmus of Rotterdam (1467-1536) was graduated as doctor at Bologna, taught Greek at Cambridge, pronouncing it as it is written, esteemed the English next to the Italians in learning, and wrote various works in admirable Latin. Fox taught Greek at Oxford in 1517, where a Greek professorship was established in 1519. Thomas More (died 1535) was a distinguished classical scholar. Peter Martyr, Martin Bucer, and other foreigners taught successfully in England. Sir T. Smith was professor of Greek at Cambridge in 1538, before being secretary of state under Elizabeth. Sir John Cheke, professor of Greek at Cambridge,

became tutor and secretary of state to Edward VI. Roger Ascham was preceptor to Elizabeth and her Latin secretary. George Buchanan (1506-'82) was a great Latin scholar (*οὐ σκοπὸς ἦν, ἀλλὰ φῶς Σκωτίας*, a light of Scotland). Even English ladies were then familiar with Greek, while the learned men of Europe corresponded in Latin. Budé, who commented on the Greek orators, the great scholars and printers Robert and Henry Stephens, Isaac Casaubon of Geneva, and J. C. Scaliger of Venice were promoters of classical learning in France. M. A. Muret, a French teacher in Italy, wrote almost Ciceronian Latin. J. J. Scaliger (1598-1609) commented on many Latin authors, edited Manetho's and Eratosthenes's lists of Egyptian kings, amended chronology, studied Arabic under great difficulties, and introduced philology and archæology into the newly founded (1574) university of Leyden. Melancthon (1492-1560), successor of Reuchlin at Wittenberg, improved the system of schools, and Luther exalted the High German above the other dialects by his version of the Bible. Francis I., "the father of letters," founded the royal college at Paris. Lord Bacon (1561-1626) laid a solid foundation for science in all its branches by substituting the method of observation and induction for Aristotelian speculation. Richard Bentley (1662-1742), unrivalled in conjectural emendation and keen perception of the genius of the Greek language, was the founder of historical criticism. Barnes, Dawes, Markland, and Porson (died in 1808) carried etymology to a high degree of accuracy. Holland, distinguished for liberty and commerce, became preëminent in learning, thanks to the labors of Hemsterhuys (1685-1766), Valckenauer (1715-'86), Oudendorp, Drakenborch, and other natives, and to the German Ruhnken (1723-'98) and the Swiss Wyttenbach. Dutch scholarship may be said to have begun with Gerhard Groot in the 14th century. It was sustained by Gronovius, Penzonius, Erpenius, Golius, Schultens, and Reland. The Elzevirs aided all their labors by their typographical enterprise. Germany soon began to vie with Holland, and has maintained since then the front rank in philological studies. Some of her principal scholars are Fabricius (1668-1736) at Hamburg, Gesner at Göttingen, Ernesti (1707-'81) at Leipsic, who defined philology as *studia humaniora*; Heyne (1729-1812) at Göttingen, who brought general literature to bear on philology; Reiz (1733-'90), who introduced a rational in place of an empirical method of grammar; Hermann (1772-1848), the reformer of Greek grammar; F. A. Wolf, who, developing the views of Vico and Villoison, endeavored to prove that the Homeric poems were the product of several authors; B. G. Niebuhr (1776-1831), who, accepting this view and making a further application of it, reconstructed the history of Rome; Schleiermacher, who continued to show the connection between classical studies and modern literature, and comprehensively interpreted Plato;

Boeckh, whose common sense was not overwhelmed by classical lore; and K. O. Müller, whose genial mind was exerted in multifarious researches. Works on mythology, containing much beside classical erudition, were produced by Lobeck, Creuzer, and others. The Germans, however, are surpassed by the English in finished skill and practical mastery over the resources of Greek and Latin learning. Eminent illustrations of this fact are the discussion of the early history of Rome by Sir G. O. Lewis, and the review and analysis of the Homeric poems by the Right Hon. W. E. Gladstone, both finance ministers. Among the most distinguished promoters of oriental learning are Herbelot (died in 1695), Galland, Du Halde, Meunier, Anquetil-Duperron, De Guignes, Thomas Hyde, Edward Pococke, Simon Ockley, Chappelow, Kennicott, Ludolf, Reiske, Michaelis, Eichhorn, Rosenmüller, Gesenius, the great Sylvestre de Sacy, and Freytag. Though not professional philologists, the following great thinkers should be noticed for their important influence on the progress of good taste and philosophy: Leibnitz (1647-1716); Lessing (1729-81), who gave to German literature a native and original character; Winckelmann (1717-68), the historian of ancient art; and Kant (1724-1804), whose definition of language as the organ of thought raised glossology to the dignity of a science (called in German *Sprachkunde*). The foundations of learned societies and libraries are also worthy of notice, as the English royal society in 1662, the *académie des inscriptions* in 1663 and *des sciences* in 1666, the *bibliothèque du roi* in 1667, the royal academy of Berlin in 1700, the university of Göttingen with a philological seminary in 1737, and with a scientific society in 1751, the academy of sciences at St. Petersburg in 1724, and the scientific society at Upsal in 1728, and at Stockholm in 1739. After that of Göttingen, philological schools were established at Erlangen in 1774, then at Kiel, and successively in most of the universities of Germany, and at Dorpat in Russia. On the occasion of the centennial jubilee of the foundation of the university of Göttingen (1837), it was determined to hold assemblies of philologists annually in the principal cities of Germany, the first of which took place at Munich in 1838. By that which was held at Dresden in 1844 an oriental section was organized. The domain both of classical and sacred philology has been surveyed by F. A. Wolf, *Vorlesungen über die Encyclopädie der Alterthumswissenschaft* (Leipsic, 1831); G. Bernhardt, *Grundlinien zur Encyclopädie der Philologie* (Halle, 1832); A. Matthiæ, *Encyclopädie und Methodologie der Philologie* (Leipsic, 1855); and Haase, art. *Philologie* in Ersch and Gruber's cyclopædia (1847). Boeckh distributes the functions of philology into two groups, viz.: A, formal, verbal, consisting of exegesis and criticism, and comprehending grammar, lexicography, and interpretation of texts; B, material, real, containing political history with chronology and geography,

public and private antiquities, mythology and archæology, and history of literature. All these may be also severally entitled grammar, history, and hermeneutics. The aims attained by philology are knowledge of antiquities, æsthetics, ethica, and history. Its sources are manuscripts, books, coins, inscriptions, and all other monuments.—Glossology or idiomology includes all the linguistic results of philology, and examines whatever is living in the organism of all forms of speech, whether pertaining to ancient or modern, powerful or weak, sacred or profane, civilized or savage nations or tribes. It aims to discover the laws of speech, to pierce into prehistoric darkness, and to trace the origin not only of states but of all human opinions. The establishment of a British empire in India (1755-65) was the foundation also of the science of glossology or comparative philology. By command of Warren Hastings, a translation of Hindoo and Mohammedan laws was edited by N. B. Halhed in 1776. By the exertions of Sir William Jones, who wrote a Persian grammar and translated the *Sakontala*, Manu's ordinances, &c., the Asiatic society was founded at Calcutta in 1784, and Sanscrit was opened to the scrutiny of the European mind. Lipsius, Salmasius, and others, had already written on analogies between various languages. Scaliger and Wilkins made comparisons between the Persian and German, and Junius between the Gothic and the Anglo-Saxon. Leibnitz had suggested sound principles of ethnography, and advised collections of comparative lists of words. G. Hickes had published a *Thesaurus Grammatico-Criticus et Archæologicus Linguarum Veterum Septentrionalium* (1715). Pater Nosters had been collated by Gesner (1555), Wilkins, Chamberlayne (1715), and Hervæus (1784). Sanscrit had been studied by Handleben, Holwell, who wrote on Indian mythology, Dow, and Wesdin (St. Bartolomeo), but without important results, as there was no method in their pursuits. The following is a list of some of the most prominent scholars, with their principal works, who have most successfully advanced comparative philology: H. T. Colebrooke, *Amara Cosha* (an Arabic dictionary); W. Carey, a Sanscrit grammar; C. Wilkins, grammar, and version of the *Hitopadesa* (Bilpay's fables); F. Schlegel, *Sprache und Weisheit der Indier*; A. W. Schlegel, *Indische Bibliothek*; Prichard, inaugural dissertation on the varieties of the human race; H. H. Wilson, Sanscrit dictionary; F. Bopp, comparative grammar; Monier Williams, English-Sanscrit dictionary; Foucher d'Obsonville, *Puranas*; Gorresio, *Ramaya*; Lassen, and Burnouf. Eminent in other branches of glossology are the Slavists Dobrowski, Schaffarik, and Linde, the brothers Grimm, and Rask, a most sagacious inquirer into the old Norse, Finnic, Zend, Sanscrit, and Romanic languages, to whom, earlier than to J. L. Grimm, the law of the transition of consonants was known. Many other names are given in the articles on the several languages.

LANGUEDOC, one of the largest and most beautiful of the old provinces of France, bounded N. by Lyonnaise, Auvergne, and Guienne, E. by the Rhône, S. by the Mediterranean, Roussillon, and the Pyrénées, and W. by Guienne and Gascony; length about 170 m., breadth about 90 m. It was divided into Haut-Languedoc, Bas-Languedoc, and the Cévennes. Out of this province have been formed the departments of Haute-Loire, Lozère, Ardèche, Gard, Hérault, Aude, Tarn, and portions of Haute-Garonne and Tarn-et-Garonne. The canal of Languedoc, which extends from the Garonne to the Mediterranean, is over 160 m. in length.

LANIERE, NICOLÒ, an Italian painter, engraver, and musician, born in 1568, died about the middle of the 17th century. He settled in London and became a favorite with Charles I., who appointed him in 1626 his chapelmaster, with a salary of £200. He composed the music and painted the scenes for a masque of Ben Jonson's performed in 1617, and is said to have written the music to Pierce's funeral hymn for Charles I. He was also a dealer in pictures, and was instrumental in procuring for Charles the gallery of the duke of Mantua, containing some of Mantegna's finest works, at an outlay of £20,000.

LANIGAN, JOHN, D.D., an Irish clergyman and author, born in Cashel in 1758, died in Finglas, near Dublin, July 7, 1828. About the age of 16 he entered the Irish college at Rome, where he took orders and received the degree of D.D. He was soon afterward appointed to the chair of Hebrew, divinity, and the Scriptures at Pavia; and when the university was deserted in 1796 in consequence of the war, he returned to Ireland and was elected to a similar position in the college of Maynooth. His election having been opposed however by the bishop of Cork, who suspected him of Gallicanism, he refused the professorship, and obtained an appointment in the record tower of Dublin castle, to which were added in 1799 the duties of librarian, editor, and translator for the Dublin society. This position he retained until 1821, when his intellect became impaired, and he passed the rest of his life in a private lunatic asylum at Finglas. He left an "Introduction concerning the Nature, Present State, and True Interests of the Church of England, and on the Means of effecting a Reconciliation of the Churches," and an "Ecclesiastical History of Ireland" (4 vols. 8vo., 1822), which has been much praised for learning and critical acumen. He also published an Irish edition of the Roman breviary, and an edition of Alban Butler's "Moral Discourses," with a preface.

LANJUINAIS, JEAN DENIS, count, a French jurist and statesman, born in Rennes, March 12, 1753, died in Paris, Jan. 13, 1827. When scarcely 22 years of age he won by public competition the professorship of ecclesiastical law in his native city. He acquired great reputation both as a lecturer and a barrister, was in 1789 elected a deputy to the states-general,

took an active part in nearly all the great measures of the constituent assembly, framed the bill for the civil constitution of the French clergy, and was the first mover of a plan, afterward adopted and embodied in the civil code, by which the registration of births, marriages, and deaths was to be transferred from ecclesiastics to municipal officers. On the adjournment of the constituent assembly he returned to Rennes, where he lectured upon constitutional law, and was soon made a counsellor in the national high court. In 1792, being sent to the convention, he resisted the extreme measures of the revolutionists, tried to have the accusation against Louis XVI. set aside, protested against the illegality of the proceedings in that prince's trial, and, being obliged to participate in it, voted for his confinement and subsequent banishment. He sided with the Girondists, was arrested on June 2, 1793, escaped to Rennes, was outlawed, and succeeded in secreting himself for 18 months in a closet in his own house. On the fall of Robespierre he claimed his seat as a deputy, but was not reinstated until 1795. He afterward became president of the assembly. On the organization of the directorial government he was elected to the council of the ancients by 73 départements. After the 18th Brumaire he was appointed a member of the senate, opposed the consulate for life and the establishment of the empire, received nevertheless the title of count from Napoleon, and was one of the members who voted for the deposition of the emperor in 1814. He was made a peer by Louis XVIII., submitted to Napoleon when he returned from Elba, presided over the chamber of deputies during the Hundred Days, and on the 2d restoration resumed his seat in the chamber of peers. Here he advocated liberal opinions, opposing the reactionary measures of the Villèle ministry and the growing influence of the clergy. He was acquainted with the oriental languages; he entered the academy of inscriptions in 1808, became afterward a member of the Asiatic society of Paris, and was elected associate of the philosophical society of Philadelphia. His works have been published in 4 vols. 8vo. (Paris, 1832).

LANNER. See FALCON.

LANNES, JEAN, duke of Montebello, a marshal of France, born in Lectoure, in the old province of Guienne, April 11, 1769, died in Vienna, May 31, 1809. He was the child of poor parents, who apprenticed him at 15 years of age to a dyer. He quitted this occupation in 1792, and enlisting in the army, soon attained the rank of *chef de brigade*. In 1795 he was included among the officers whom the report of the committee charged with reorganizing the army recommended to be dropped from the service; but disdaining an inactive life, he followed Bonaparte to Italy in 1796, with the intention of recommencing his career as a volunteer. At the outset of the campaign he attracted the notice of his general, and for his bravery at the battle of Millesimo he was promoted on the field

to the command of a demi-brigade of the line. At the passage of the Po, May 7, he was the first to reach the opposite shore; and at the succeeding engagement at Fombio, his impetuous valor contributed in a great measure to the French victory, as also at the bridge of Lodi and the assault of Pavia, subsequent to which he was made a brigadier-general. At the battle of Arcole, Nov. 14, he was wounded in two places; but learning on the following day that the combat had been renewed before the bridge of Arcole, he mounted his horse, and plunging into the thickest of the fight was struck senseless by a ball while urging on the troops. In two months he was again in the field, and participated in some of the most important achievements of the campaign of 1797 until the peace of Campo Formio. He followed Bonaparte to Egypt in 1798, and fought with distinction at Gaza, Jaffa, Kakoun, St. Jean d'Acre, and Aboukir. At the last named place he was severely wounded while storming a redoubt. Returning to France, he contributed greatly to the success of the 18th Brumaire (Nov. 9, 1799), receiving as a recompense for his services the command of the consular guard; and in the spring of 1800, as general of division, he took command of the advanced guard of the army with which Napoleon entered Italy over the St. Bernard, and he ended a series of brilliant achievements by completely beating the Austrians under Ott at Montebello, with a loss to them of 5,000 men, whence he subsequently received the title of duke of Montebello. For his conduct at Marengo, in which with his corps he sustained for 7 hours the attacks of the Austrian army supported by a powerful train of artillery, he was presented with a sword of honor, and he was selected to present to the French government the standards taken from the Austrians. In 1801 he was sent to Lisbon as minister plenipotentiary, but showed in this capacity so arbitrary and rapacious a disposition and so little of diplomatic finesse, that it was deemed necessary to recall him. In 1804 he was created a marshal of the empire, and in the succeeding year he accompanied Napoleon to the Austrian campaign in command of the left wing of the army. He was present at Wertingen, Ulm, and Braunau, and occupied Linz; and at Austerlitz, where he had two aids killed by his side, he fought with characteristic bravery and obstinacy. He was actively employed in the campaign of 1806 against the Prussians; and at the battle of Jena, where he commanded the centre, he narrowly escaped death from a musket ball which pierced his clothing. He subsequently participated in the campaign against the Russians, terminating at the battle of Friedland, June 14, 1807, where with his single corps he sustained the attack of Benning's troops until the French reserves came up and assumed the offensive. The failure during this campaign of the attempt to storm the entrenched Russian camp at Heilsberg, June 10, gave occasion for a fierce altercation between Napoleon and Lannes, in which the former was boldly accused of man-

ifesting an undue partiality for his brother-in-law, Murat. In 1808 Lannes accompanied the emperor into Spain, and, having defeated Castanos and Palafox at Tudela, conducted the siege of Saragossa, which after a defence of many days, memorable alike for the heroic endurance of the inhabitants and the energy and skill of the French marshal, capitulated Feb. 21, 1809. He was almost immediately summoned to Germany, where the campaign of 1809 had already commenced, and placed in command of the 2d *corps d'armée*, numbering 50,000 men. At Eckmühl, April 22, his services mainly contributed to the successful issue of the battle, and at the assault on Ratisbon on the succeeding day he signalized himself by one of those daring acts for which he was conspicuous even among Napoleon's generals. Seeing that his men hesitated to enter the breach under a heavy fire from the ramparts, he seized a scaling ladder and led them in through a storm of shot, thereby carrying the place in a few minutes. The sanguinary battles of Aspern and Essling, May 21 and 22, witnessed the termination of his career. On the 21st he held the village of Essling against repeated attacks of the Austrians, until both armies, wearied by the labors and toils of the day, slept upon their arms. On the succeeding day he headed an immense column of infantry, artillery, and cavalry, which Napoleon hurled on the Austrian centre, and which, but for the obstinate resistance of the duke of Reuss's reserve grenadiers thrown into squares, would have cut the Austrian army in two. Lannes was forced back toward the bridge connecting the left bank of the Danube with the island of Lobau, whither the French were soon in full retreat; but here, in command of the rear guard, he effectually checked the advance of the fresh troops whom the archduke Charles was constantly bringing up. To animate his men in this desperate struggle with a victorious enemy, he dismounted from his horse, and stationed himself in the front ranks. At that moment he was struck by a cannon ball, which carried away the whole of his right leg, and the foot and ankle of his left. As he was borne from the field by his grenadiers, he encountered the emperor, who, kneeling by his litter, embraced him with tears, and showed an unusual degree of emotion. Amputation was resorted to with no perceptible relief, and Lannes, after lingering for 9 days in great agony, expired in Vienna, whither he had been removed soon after the battle of Essling. "Lannes," said Napoleon at St. Helena, "when I first took him by the hand, was a mere ignoramus. His education had been much neglected, but he made great progress, and would in time doubtless have become a general of the first class. He was a man of extraordinary bravery. Calm in the midst of danger, he possessed a clear and penetrating observation, and was quick to profit by every occasion which presented itself. Violent and ungovernable in his expressions, sometimes even in my presence, he was nevertheless greatly

attached to me. In his paroxysms of anger he would permit no one to speak to him, and it was not always prudent to attempt it while he was in these moods. He had also the habit of coming to me and complaining that we could put no reliance on such and such a person. As a general he was far below Moreau or Soult." On another occasion he said of him: "With Lannes, courage at first predominated over judgment; but the latter quality daily gained strength, and was rapidly establishing an equilibrium. He had already become a great general at the time of his death. I found him a dwarf and I lost him a giant." A statue of him was erected in his native place after the revolution of July, 1830. His son, the present duke of Montebello, was a minister under Louis Philippe, and is a proprietor of vineyards in Champagne.

LANSDOWNE, WILLIAM PETTY, 1st marquis of, better known as the earl of Shelburne, a British statesman, born May 2, 1737, died May 2, 1805. In early life he entered the army, and served with distinction under Prince Ferdinand in the 7 years' war. Upon the death of his father in April, 1761, he took his seat in the house of peers, where he manifested so much ability for the discharge of public duties, that upon the formation of the Grenville ministry in April, 1763, he was appointed president of the board of trade, with a seat in the cabinet, although he was not then 26 years of age. In this capacity he distinguished himself by a conciliatory policy toward America, and by his opposition to the plans proposed for taxing the colonies, thereby incurring the hostility of the king and of his colleagues. Upon the remodeling of the cabinet in September he resigned office, and thenceforth attached himself to the policy and fortunes of Mr. Pitt, who, upon assuming the reins of government in 1766, made him secretary of state for the southern department, which included the colonies. He here renewed his endeavors to remove all causes of complaint between the colonies and the mother country, but was constantly thwarted by Townshend, the duke of Grafton, and others of his colleagues, who during the illness of Pitt, now become earl of Chatham, had acquired a predominating influence in the cabinet. Not choosing to resign until he could advise with Chatham, he was dismissed by the king in Oct. 1768; and thenceforth, during the Grafton and North administrations, he proved himself one of the ablest and most active opponents of the ministry in the upper house. Upon the resignation of Lord North in March, 1782, he took office under the marquis of Rockingham; and upon the death of the latter in July of that year he was intrusted by the king, who had begun to put much confidence in him, with the formation of a new ministry. The new premier had to encounter the opposition of the Fox party, who were disappointed that the duke of Portland had not received office; and the coalition between these and the adherents of Lord North compelled him to resign in Feb. 1783. But

during the 7 months that he held office the defence of Gibraltar and the victories of Hood and Rodney added lustre to the British arms; and the preliminaries for peace with America and for the acknowledgment of the independence of the United States were concluded, notwithstanding he had joined Lord Chatham in expressing the "strongest disapprobation" of the latter measure. From this period he retired almost wholly from public life. In 1784 he was created marquis of Lansdowne. Lord Shelburne was considered one of the most liberal and accomplished statesmen of his time, and probably carried out more fully than any of his contemporaries the principles inculcated by the elder Pitt.—HENRY PETTY FITZMAURICE, 8d marquis of, 2d son of the preceding, born July 2, 1780. He was educated at Westminster school; subsequently spent some years in Edinburgh under the instruction of Dugald Stewart, where he imbibed liberal principles from frequent intercourse with Brougham, Jeffrey, Sydney Smith, and others; and was graduated at Trinity college, Cambridge, in 1801. Upon coming of age he entered parliament for the borough of Calne, succeeded to the representation of Cambridge university on the death of Mr. Pitt, and upon the formation of the "all the talents" ministry under Grenville and Fox in Feb. 1806, was appointed chancellor of the exchequer, being within a few weeks of the age at which his father had first accepted office 48 years previous. Lord Henry Petty, as he was called, identified himself from the outset of his career with the support of the leading measures of the liberal party, but was precluded by the short duration of the ministry in which he held office from fully displaying his financial abilities. He retired with his colleagues in 1807; and succeeding to his title two years later, on the demise of his brother, he became one of the whig leaders in the house of peers, a position which his amenity of manners, grasp of information, and ready powers of debate well qualified him to fill. During the long interval in which the whigs remained out of office he was an earnest and active advocate of Catholic emancipation and the abolition of slavery, and was one of the first to urge the necessity of parliamentary reform and free trade. After 20 years' exclusion from a participation in the administration of public affairs, he was appointed, in Aug. 1827, home secretary in the short-lived cabinet of Viscount Goderich. Upon the formation of Earl Grey's ministry in Nov. 1830, he received the appointment of president of the council, an office which he held uninterruptedly, with the exception of a few months, until Sept. 1841, when he retired with his colleagues of the Melbourne ministry. He accepted the same office again under Lord John Russell's administration in July, 1846, and held it until Feb. 1852. Upon the formation of the Aberdeen cabinet in the succeeding December he was solicited to return to his former post, but declined, whereupon he was offered a seat in the cabinet without office,

which he occupied until March, 1858, when he retired definitively from public life. Since the death of Lord Holland he has been regarded as the Nestor of the upper house, having been a hereditary legislator for more than 50 years, and a minister of the crown for nearly 25.

LANSING, a city of Ingham co., Mich., and capital of the state, situated on Grand river, 110 m. N. W. from Detroit; pop. in 1859 about 5,000. It is surrounded by a fertile country abounding in timber and coal, and will be connected with the Detroit and Milwaukee railroad at Owasso by the Amboy, Lansing, and Traverse bay railroad. The river supplies it with valuable water power, and it has an active and increasing trade. The state house, a large and handsome building, occupies an eminence 50 feet above the river. The city contains a house of correction for juvenile offenders, and is the seat of an agricultural college with a farm of 700 acres, and a female college. In 1859 it had 10 churches (2 Baptist, 1 Episcopal, 1 Lutheran, 2 Methodist, 1 Presbyterian, 1 Roman Catholic, 1 United Brethren, and 1 Universalist), 1 bank, 2 weekly newspaper offices, 2 breweries, 5 carriage factories, 2 grist mills, 2 tanneries, 5 hotels, 2 planing mills, and 3 saw mills. Lansing was made the seat of government in 1847, when its settlement was barely begun, and was incorporated as a city in 1859.

LANSINGBURG, a township of Rensselaer co., N. Y., on the E. bank of the Hudson river, opposite Waterford, with which it is connected by a bridge, and 3 m. above Troy; pop. in 1855, 5,700. It contains a village of the same name (pop. in 1855 about 4,000), which is a station on the Troy and Boston and western Vermont railroad, and is accessible by sloops on the Hudson by means of a lock at Troy. The village has manufactories of brushes, oil cloths, cordage, malt liquors, &c., and contains 6 churches, 2 newspaper offices, an academy, and a female seminary.

LANTERN (Lat. *laterna*, or *lanterna*), a lamp with a transparent covering to protect the flame from the wind, designed either to be carried in the hand or suspended or otherwise fixed in an open place, as for lighting a street or a passage in a building. Lamps of this description are frequently referred to by ancient authors; but it appears that those used by the Greeks and Romans were more commonly of the portable form than designed for stationary purposes. The Egyptians of the present day make great use of cylindrical-shaped lanterns of transparent cloth or paper, which can be drawn out when used and at other times pressed down flat like the circular bellows, and having in the centre of the disk which forms the bottom a socket for holding a candle; the upper end is left open for the escape of the smoke. Wilkinson refers to some ancient sculptures in which there appears to be a representation of such a lantern carried by a guard. In the ruins of Herculaneum and Pompeii two cylindrical bronze lanterns have been discovered, which were skillfully and elaborately

constructed. The bottom of one of them was supported upon metallic balls, and attached to this within was a bronze lamp provided with an extinguisher; two upright pillars supported the frame, and from these and the centre of the hemispherical cover proceeded chains to the ornamental handle by which the instrument was carried; the sides were of translucent horn; the cover could be partially raised for ventilation as well as to serve for a door. According to Plautus, horn lanterns were brought from Carthage. Bladder also was used instead of horn. Dark lanterns covered on three, or if necessary on all sides, were used in military operations for facilitating night marches. From the use of portable lanterns and flambeaux, often referred to by Latin authors, it would appear that the streets of ancient Rome were not lighted, or at best but very imperfectly so, at night. Beckmann, however, finds some authority for believing that lanterns were used in the most frequented parts both of Rome and Antioch. According to the same author, the streets of Paris, being much infested with robbers and incendiaries, were lighted by order of the government in 1558 with *salots*, or vases filled with pitch, rosin, or some such material, which were kept burning at the corners of the streets. Lanterns like those in modern use were soon substituted for these. But the plan being very inefficiently conducted, the abbé Laudati in 1663 obtained an exclusive privilege of letting out portable lanterns from booths or posts placed in different parts of Paris and other cities of France. Foot passengers calling for a man with a lantern paid 3 sous for every quarter of an hour, and each coach using a lantern paid 5 sous; each lantern was provided with a regular hour glass to prevent disputes as to the time. This system, however, continued only to 1667. Lanterns were used to some extent in London as early as 1417, as appears from an order of Sir Henry Barton, mayor, recorded in Stow's "Survey of London," that "lanthorns with lights bee hanged out on the winter evenings betwixt Hallowtide and Candlemasse." During the 16th, 17th, and 18th centuries various European cities adopted the practice of lighting the streets by fixed lanterns, but until the introduction of gas the illumination was very feeble.—The Chinese have a festival called the feast of lanterns, in which they make an extraordinary display of the greatest variety of lanterns. Some of them are described as of enormous size, sometimes 25 or 30 feet in diameter, elaborately gilded and ornamented, and costing vast sums of money. Each of these is lighted up with a great number of torches, and they are used as rooms for the exhibition of various diversions. The smaller ones, covered with transparent silk ornamented with brilliantly colored pictures, are said, when lighted up, to produce a most beautiful and striking effect. The ancient Egyptians also celebrated a festival called that of the burning lamps, during which lamps were kept burning in the open air; but it does

not appear that these were of the form of lanterns.—In architecture, a lantern is a sort of drum or cage with glass sides, erected upon a roof or surmounting a dome for admitting light below. The glass in the vertical sides is better protected from injury by hail than in the ordinary sky lights.

LANTHANUM, or **LANTANUM** (Gr. *λανθάνω*, to lie hid), a metal discovered in 1841 by Mosander, who then separated it from the metal didymium, with which it was associated together with cerium in the mineral cerite; symbol, La; chemical equivalent, 47. It is a dark lead-gray powder, soft to the touch, and the particles cohering together. Its oxide, La_2O_3 , is a white powder, which dissolves readily in acids, and forms salts which are perfectly colorless when free from didymium.

LANUVIUM (now *Civita Lavigna*), an ancient city of Italy, in Latium, 18 m. S. S. E. from Rome. It was founded at a very remote period, and probably by a colony from Alba. It took part in the wars of the Latins against the Romans. Subsequently it was celebrated for its temple of Juno Sospita. Here the emperor Antoninus Pius was born. Few remains of the old city now exist.

LANZI, **LUIGI**, an Italian writer on art, and archaeologist, born in Monte dell' Almo, near Fermo, in the Papal States, June 14, 1732, died in Florence, March 30, 1810. He was carefully educated at home, particularly in classical literature, and at the age of 18 entered the society of the Jesuits, at whose college in Fermo he completed his studies. He was subsequently employed there as a teacher, and, at the suppression of the order by Clement XIV. in 1773, had acquired a considerable reputation for elegant scholarship. Choosing literature as a profession, he published a description of the Florentine gallery, of one department of which the grand duke Leopold had appointed him keeper. His *Saggio di lingua Etrusca*, a work of profound research, and which placed him at the head of modern Italian archaeologists, was an ingenious attempt to assign a Greek origin to the religion and mythology of Etruria. These works, however, are but little known in comparison with his *Storia pittorica*, which he undertook at the suggestion of his friend Tiraboschi, the historian of Italian literature. No general history of Italian painting had previously appeared, and the histories of particular schools, although numerous and full, were too strongly marked by bias and prejudice to be of any general value. Lanzi's work was the first comprehensive treatise in which the history of each school is given according to its several epochs, and the first written in a philosophical and impartial spirit. The first part was published in 1792, and such was the favor with which the whole work was received that several editions were published in the author's lifetime, each of which received numerous additions and revisions from his hand. It has been translated into various languages, and is familiar to English readers through the

excellent version of Thomas Roscoe, which forms 8 vols. of Bohn's "Standard Library." Lanzi also published a collection of dissertations on Etruscan vases; a book of Latin poems written by himself; a translation of Hesiod's "Works and Days" in *terza rima*; and *Opere sacre*, a series of treatises on spiritual subjects, to which he is said to have attached more importance than to any of his other writings. He died of apoplexy, and was buried in the church of Santa Croce in Florence by the side of Michel Angelo.

LAOCOÖN, a Trojan hero, generally represented as the son of Antenor, and a priest of Apollo or Neptune. While the Trojans were assembled round the wooden horse of the Greeks, deliberating whether they would admit it into their city, Laocoön rushed forward, warned them not to receive it, and struck his spear into its side. As a punishment for his impiety toward an object consecrated to Minerva, two monstrous serpents attacked him and his two sons while preparing to sacrifice in the temple of Neptune, and, coiling themselves round the bodies of the three, crushed them to death. This legend was a favorite subject with the poets and artists of ancient Greece. The story is related by Virgil, and a celebrated group of sculpture representing Laocoön and his sons encoiled by the serpents, and suffering the agonies of strangulation, is still extant, and is stated by Pliny, who regards it as "superior to all other works of painting or sculpture," to have been the work of the Rhodian statuary, Agesander, Polydorus, and Athenodorus. It was discovered at Rome in 1506, and purchased by Pope Julius II., who placed it in the Vatican, where it still remains. Winckelmann contends for an early Grecian origin of this masterpiece; but Lessing, in his admirable work on art, to which he gave the title of *Laokoön*, believes the sculptors to have lived in the latter part of the 2d century.

LAODAMIA, a mythical Grecian princess, daughter of Acastus and wife of Protesilaus, a Thessalian hero, who, having led his warriors against Troy, was the first Greek slain on the Asian shore. His disconsolate spouse entreated the gods to permit her to hold converse with her husband for only three hours. The request was granted, and Mercury conducted Protesilaus back to the upper world; but when he was forced to return, Laodamia, unable to endure separation from him, expired.

LAODICEA, in ancient geography, the name of 6 Greek cities in Asia, situated in Phrygia, Syria, Lycania, Coelestria, Media, and Mesopotamia, founded by Seleucus Nicator, the first king of Syria, and some of his successors. Two deserve particular notice. I. **LAODICEA ON THE LYCUS**, a tributary of the Meander, in a S. W. corner of Phrygia, which, however, was claimed by some earlier writers as part of Lydia and Caria. It received its name from Laodice, the queen of Antiochus Theos, its founder, belonged for some time to the kingdom of Pergamus, and under the Romans, though frequently visited

by destructive earthquakes, became one of the most flourishing and opulent cities of Asia Minor. Its luxury in the early times of Christianity is attested by the severe rebuke addressed to its inhabitants in the Apocalypse. The town of Eski-Hissar was built by the Turks on its site.

II. LAODICEA ON THE SEA COAST, a maritime city of Syria, near Antioch, as the port of which it may be regarded, founded by Seleucus Nicator, and named after his mother. It was renowned for the fertility of its wine-growing environs, its splendor, and the excellence of its harbor. In the later period of the Syrian empire it became almost independent, and it suffered greatly during the civil war after the death of Cæsar, when it stood a siege against the Cassians. It was rewarded by Antony with exemption from taxes, and adorned by Herod the Great with an aqueduct, the ruins of which, with some other remnants of its ancient greatness, are still to be seen. During the middle ages it suffered greatly from the attacks of the Moslems, whom it withstood down to 1188. Its site is now occupied by the Turkish city of Latakia (Latakees or Ladakieh), in the pashalic of Tripoli, built on a peninsula which projects some 2 m. into the Mediterranean, opposite the N. E. extremity of Cyprus; pop. estimated at from 5,000 to 10,000. It is surrounded by groves of myrtle, pomegranate, mulberry, and olive trees, and consists of two portions, the upper and lower town. The former occupies an elevated site at a short distance from the sea; the latter, called La Scala, extends along the shore in the vicinity of the harbor. Latakia and Alexandrette are the ports of Aleppo, and a great part of the important trade of that city with the adjoining provinces passes through the former place, the Aleppo imports of manufactured goods amounting to nearly \$6,000,000 annually. The principal articles of export are cotton, gall nuts, sesame seed, wool, wax, camels' hair, and several minor products. Grain can be exported only in times of scarcity in Europe, when the prices compensate for the heavy expenses of transportation, and then chiefly to Marseilles. Within the last few years a portion of the Aleppo wool shipped from Latakia has found its way to the United States. The principal article of trade, however, is tobacco, of which large quantities are raised in the neighborhood, and which is famous all over the world.

LAON, a city of France, capital of the department of Aisne, situated on an isolated hill 74 m. N. E. from Paris; pop. in 1856, 8,199. It is surrounded by walls and ramparts which are about 4 m. in circumference. Under the early French kings it was a place of considerable importance, and it is the see of a bishop. It was taken by the duke of Burgundy in 1411, by the English in 1419, by the French again in 1429, and by Henry IV. in 1594. The allies defeated Napoleon here, March 8-10, 1814, in a series of engagements which, though hardly deserving the name of battles, had the most important consequences.

LAOS, a country of Asia, in Indo-China or Further India, bounded N. by China, E. and S. E. by Anam, S. W. by Siam, and N. W. by Burmah, extending from about lat. 16° to 24° N., though its limits are not closely defined; pop. estimated at 1,400,000. It is traversed by the Mekong or Cambodia river, and is separated from Burmah by the Saluen, both which are streams of considerable magnitude. The surface appears to be a valley lying between two nearly parallel ranges which run along the N. E. and S. W. frontiers. The soil is fertile, and produces rice, tobacco, the sugar cane, indigo, benzoin, guma, teak, sapan and sandal woods, betel, and numerous fruits. Elephants and draught cattle are the principal animals, and valuable mines of tin and iron are said to exist, while gold is washed from the sands of the rivers, and copper, lead, emeralds, and rubies are also found. The Laonese are an honest but indolent race, much addicted to the study of magic, and resembling in religion, customs, and language the Burmese. They are skilful workers in metal, and make mats, paper (from bark), leather, pottery, silk and woollen fabrics, sugar, and gunpowder. They have a trade with the British settlements in Indo-China, and with Tonquin. A large part of their territory is in the possession of the Siamese.

LA PAZ, a department of Bolivia, bounded N. and E. by that of Beni, S. by Cochabamba and Oruro, and W. by Peru; area, 86,418 sq. m.; pop. in 1855, 846,000. It extends over the N. half of the Bolivian portions of the valley of the Desaguadero, and comprises those valleys of the Cordilleras through which the head streams of the Beni (a principal affluent of the Amazon) flow. It is not much cultivated, although the lower parts of the valleys are very fertile.—**LA PAZ DE AYACUCHO**, capital of this department, is about 200 m. from Ohuquisaca, in lat. 17° 30' N., long. 68° 25' W., and situated on the E. declivity of the Andes at an elevation of 12,000 feet above the sea, on both sides of the deep ravine of Quebrada de Choquehapu, crossed here by 9 bridges; pop. in 1855, 42,850. It contains a handsome public square, but the streets are generally irregular and steep. The cathedral is a noble edifice, and there are some 15 other churches. It is the seat of a bishop and a university. It is the principal commercial emporium of Bolivia, the exports consisting of gold, bark, and other products of the country, and the imports of manufactured goods, the bulk of which comes through Peru. It was founded in 1548. Its original name of Nuestra Señora de la Paz was changed in 1825 to its present name in honor of the national victory of Ayacucho.

LA PAZ, a town and mission on a bay of the same name, on the E. shore of Lower California; pop. about 500. Some of the houses are of large dimensions, and possess much architectural beauty, showing that there was formerly luxury and wealth, which are no longer seen. Its wealth was chiefly derived from its pearl-oyster fisheries.

LAPEER, a S. E. co. of Mich., drained by the sources of Flint and Belle rivers; area, 828 sq. m.; pop. in 1850, 7,029. It has a rolling surface and a rich soil, and is well wooded. The productions in 1850 were 66,967 bushels of Indian corn, 84,521 of wheat, 52,956 of oats, 33,798 lbs. of wool, and 6,875 tons of hay. There were 7 grist mills, 11 saw mills, 1 newspaper office, 7 churches, and 2,315 pupils attending public schools. The Port Huron and Milwaukee railroad when completed will pass through Lapeer, the capital.

LA PÉROUSE, JEAN FRANÇOIS DE GALLAUP, count of, a French navigator, born at Guo, near Albi, Languedoc, Aug. 23, 1741, perished probably by shipwreck at Vanikoro, an island in the South Pacific, in 1788 or 1789. He entered the navy at the age of 15, and in 1759 was present under Conflans in the engagement with Sir Edward Hawke off Belle Isle, in which he was severely wounded and taken prisoner. Subsequently he served with credit in the American war of independence, and in 1782 entered Hudson's bay with a small fleet and destroyed the British trading establishments there. Upon the conclusion of the war Louis XVI., with a view of securing for the French people a share in the glory which the English were reaping from the discoveries of navigators like Cook, caused the frigates *Astrolabe* and *Boussole* to be fitted out under the command of La Pérouse for maritime explorations in the Pacific, and along the coasts of America, China, Japan, and Tartary. La Pérouse, sailing from Brest, Aug. 1, 1785, arrived in Concepcion, Chili, in the succeeding February. Thence, by way of Easter island and the Sandwich islands, he proceeded to the N. W. coast of America, making no discovery of importance on the voyage. From Mount St. Elias he explored the coast as far as Monterey, California, whence he crossed over to Asia. During the summer of 1787 he followed the coast from Manila to Petropavlovsk, at which place he arrived in September, having in the interval carefully examined the waters which separate the coast of Tartary from the Japanese group of islands, and discovered the straits between the islands of Saghalien and Yesso which bear his name. From Petropavlovsk he sent to France copies of his journals and charts and other data, from which an account of his voyage was subsequently prepared. Sailing S. in the latter part of September, he touched at Maoua, one of the Navigator's islands, where De Langle, the commander of the *Astrolabe*, and a number of men were treacherously killed by the natives, and thence proceeded to Botany Bay. A letter from La Pérouse to the French minister of marine, dated Botany Bay, Feb. 7, 1788, announcing his intention of proceeding to the isle of France by the way of Van Diemen's Land, the Friendly isles, and New Guinea, was the last intelligence ever received from the expedition. In 1791, at the recommendation of the society of natural history, a squadron was despatched under Admiral Entrecasteaux in search of La Pérouse,

but failed of finding any trace of him. Having learned while at Hobarton in 1828 that fragments of a shipwrecked vessel and her equipments had been discovered in Vanikoro in the New Hebrides group, Dumont d'Urville sailed thither with his vessel the *Astrolabe*, and ascertained that many years previous two ships had foundered on a reef off the W. coast of the island, and that such of the crew as had not been drowned or murdered by the savages had sailed from the island in a small vessel built by themselves, and never afterward been heard of. Deeming the evidence satisfactory that these were the ships of La Pérouse, he caused a cenotaph to be erected near the locality of the shipwreck.

LAPHAM, INCREASE A., an American naturalist, born in Palmyra, Ontario (now Wayne) co., N. Y., March 7, 1811. He began life as a civil engineer, and from 1825 until 1827 was engaged a part of the time on the Welland canal in Canada, and a part on the Miami canal in Ohio. In Dec. 1827, he went to Louisville, Ky., and attended school, but at the same time continued to act as an engineer, being employed for nearly two years on the canal around the falls of Ohio at Louisville. Here he had opportunities to pursue his studies and to make observations on the climate, geology, botany, &c., of the country; and in 1827 he wrote his first scientific essay, being a "Notice of the Louisville Canal, and of the Geology of the Vicinity, with Plans, a Map, and Geological Section," which was published in Silliman's "American Journal of Science" of that year. From 1830 to 1832 he was employed on the Ohio canal, and in 1833-'5 acted as secretary of the Ohio board of canal commissioners at Columbus. This office afforded him considerable leisure, which was devoted to scientific pursuits. He began here the collection of his herbarium, now numbering about 8,000 species, and was one of a committee of scientific men appointed by the legislature of Ohio to report on the subject of a geological survey of that state. His duties under that appointment were terminated by his removal in 1836 to the newly founded city of Milwaukee, where he has since resided, and has held several municipal and other offices. In 1844 he published "Wisconsin: its Geography and Topography, History, Geology, and Mineralogy," and in 1855 a geological map of Wisconsin, compiled in great measure from personal observations. In the same year appeared his "Antiquities of Wisconsin," in the 7th volume of the Smithsonian "Contributions to Knowledge," the result of investigations undertaken in behalf of the American antiquarian society. He has contributed numerous papers to the scientific periodicals of the United States, and was the first to ascertain from careful observations that there is a slight lunar tide on Lake Michigan.

LAPIDARY (Lat. *lapidarius*, a stone cutter, from *lapis*, a stone), a workman whose trade is the cutting and polishing of small ornamental stones. As already noticed in the article **GEMS**,

there were lapidaries in very ancient times skilled in fashioning hard stones into seals, and engraving them with devices. To that article and to DIAMOND reference may be made for an account of some of the operations of this class. The apparatus employed by the lapidary consists almost exclusively of wheels or disks for grinding down, slitting, and polishing the faces of minerals. These are of a few inches diameter, made of lead, pewter, brass, or iron, and of various soft alloys, and some used for smoothing the softest minerals are of willow or mahogany. The metal wheels are called laps. The term mill is applied to them all, and some are distinguished as slitting mills, others as roughing, smoothing, or polishing mills, of all which there are varieties adapted to the different degrees of hardness of the minerals. The polishing mill for the softest stones is formed of a coil of list, wound with the edges outward; it is also sometimes made of bristles like a brush, and again of wood covered with buff leather. For slitting purposes an iron disk is employed of 8 or 9 inches diameter and $\frac{3}{8}$ of an inch in thickness. The various disks used by the lapidary are adjusted to a vertical spindle, and one of them is set in the table or lapidary's bench, so as to revolve horizontally just above the surface. Its axis extends beneath the table, and is there connected with a driving wheel attached to another vertical axis, which also passes through the table and terminates above in a winch or crank. This is turned with the left hand while the stone is guided upon the mill with the right. The mills are fed with moistened diamond powder or emery and water; and as the hard powder imbeds itself in the soft metal, this becomes merely the medium for holding the abrading material, and the softer substance apparently grinds and cuts the harder objects that are applied to it. A raised edge around the table prevents the dispersion of the diamond powder or emery. Close to the mill is a crank of round iron set in the table, which can be turned nearer to or further from the disk. This is for supporting the arm of the workman in holding the stone to the wheel; or, when its upright extremity is capped with a wooden socket, which is perforated with a number of holes, it serves to retain at any desired angle a stick upon the end of which is cemented the stone to be ground in facets. By this contrivance the exact inclination required is given to the faces of ornamental stones. Diamond powder is prepared for the mills by grinding the waste particles in steel-mortars till they lose their sparkling appearance. It is applied mixed with olive oil, or better with the oil of brick, a thin limpid oil not liable to thicken by exposure to the air. The slitting mill is charged with it around the extreme edge, and it is carefully renewed as required. It is more economical for this use, and applied to the surfaces of other mills for grinding the facets of hard stones, than emery; but the latter powder with water is employed for the more common class of stones. It is used of

various degrees of fineness, and in such quantity that there shall always be a loose portion of it between the stone and the metallic surface of the lap. Polishing is effected by successively using finer and finer powders. The hardest small stones are finished on laps of copper or of pewter, and others on lead, and the powder used is rotten stone, which is plentifully applied with water. To make it adhere, the face of the metal is hacked in lines with the edge of a knife. For very soft stones, as alabaster, after these are smoothed upon a lead or wood mill with flour emery, the list mill is employed with pumice stone and water, and after this the buff leather disk with fine putty powder and water. The last polish is sometimes given with the hand and putty powder. An apparatus for amateurs is described by Mr. Mawe, which may be used in private houses, and is sufficient for slicing and polishing the several varieties of small stones, shells, &c. It consists of a lead mill for grinding to be used with emery and water; a pewter mill with rotten stone moistened with water; a tin plate for a slitting mill to be used with diamond powder; and wood mills covered with leather for polishing bits of marble and soft minerals and shells.—In the East Indies, wheels and rubbers are made of corundum or emery imbedded in lac resin. For the former about $\frac{1}{4}$ of the bulk is lac resin and $\frac{3}{4}$ is the powder. This is carefully stirred, a little at a time, into the melted resin; the mass is then kneaded and rolled upon a stone slab upon which fine corundum powder is sprinkled, and finally it is flattened into a disk with an iron rolling pin. The wheels are made of different degrees of fineness, and when used are set upon a horizontal axis, which the workman, sitting on the ground, causes to revolve with a spring bow, holding the stone in his left hand against the wheel, which is occasionally moistened and sprinkled with corundum powder. The rubbers contain a much smaller proportion of corundum; and the finest have intermixed the grindings of agates, carnelians, &c. Grindstones are used for giving shape to gems only in the works at Oberstein on the Nahe in Germany, where agates are fashioned into the form of various articles, as buttons, clasps, stamps, paper weights, mortars for chemical purposes, &c. Stones of large size are run by water power, and the workmen lie down in front of them when at work, the body being supported by a sort of stool. They acquire wonderful dexterity in giving the shape they desire to the hard stones, and produce with extraordinary rapidity playing marbles of perfectly globular form.—For full details of the processes of the lapidary, the 3d vol. of Holtzapffel's "Mechanical Manipulations" may be consulted; and information on the subject may also be obtained from the recent work of Dr. Feuchtwanger of New York, entitled "A Popular Treatise on Gems."

LAPIS LAZULI, LAZULITE, ULTRAMARINE, or BLUE SPAR, a mineral distinguished for its beautiful azure-blue color, highly esteemed as an

ornamental stone. It is commonly obtained of massive form, and of compact or granular structure. Crystals, which are rare, are 12-sided; a fine specimen of the regular dodecahedron with mirror-like faces is contained in the collection of the French school of mines. The mineral is a silicate of soda, lime, and alumina, with a sulphuret, probably of iron and sodium. The analyses give variable results. That by Clément and Desormes, the first of those below, is regarded as giving the true composition. By following it, artificial ultramarine, a pigment formerly prepared directly from the mineral, has been successfully manufactured. The 4th, by Varrentrapp, is of an artificial ultramarine. The 2d analysis is by Klaproth, and the 3d by Varrentrapp, as given by Dufrénoy (*Minéralogie*):

Constituents.	1.	2.	3.	4.
Silica.....	35.8	44.0	44.50	45.604
Alumina.....	34.8	14.5	31.76	23.904
Soda.....	22.2	..	9.09	31.476
Carb. lime.....	8.1	28.0	3.52	1.753
Sulphate lime ..	6.5	{ Sulph. } 5.89	{ Sulph. } 3.380	
Sulphur.....	8.1	..	0.95	1.635
Oxide of iron. ..	..	8.0	0.18	1.063
Chlorine.....	..	..	0.43	trace
Loss.....	..	2.0	1.00	0.021
Total.....	100.0	100.0	100.00	98.785

The hardness of the mineral is 5.5; specific gravity, 2.88, crystals 2.959. When melted by the blowpipe it loses its blue color; but a variety from Ohili recovers it on cooling after calcination. Lapis lazuli occurs in calcareous rocks associated and sometimes mixed with mica and iron pyrites. It is brought from Persia, China, Lake Baikal in Siberia, Bucharia, and recently from Ohili and California. In trade it is known as the Armenian stone. The principal use of the stone has been for making the blue ultramarine pigment; and as from the best stone only 2 to 3 per cent. can be obtained, the cost of the purest article is sometimes over \$100 an ounce. The artificial preparations, however, are now very generally substituted. (See ULTRAMARINE.) Lapis lazuli was employed by the ancient gem engravers, and the fine specimens have ranked among choice jewels. The stones through which the mineral is disseminated are carved into many ornamental objects, as vases, snuff boxes, cups, and even architectural ornaments. In the Orloff palace at St. Petersburg are apartments lined with lapis lazuli. Imitations of the mineral are made of bone ashes colored with oxide of cobalt.

LAPITHÆ, in fabulous Grecian history, a people of the mountains of ancient Thessaly, descended from Lapithes, the son of Apollo and Stilbe. They were governed by Pirithous, the son of Ixion, and are famous for their battles with the centaurs, who, being likewise sons of Ixion, claimed a share in their father's kingdom. The wars having been closed by a peace, Pirithous invited the centaurs to a feast on occasion of his marriage with Hippodamia; but, heated with wine and urged on by Mars, they attempted to carry off the bride and other wo-

men, whereupon a conflict ensued, in which the Lapithæ were victorious. The story is related by Hesiod and Ovid. The Lapithæ were probably a Pelasgian people, whose conquest of some less civilized tribe originated the classic fable. To them is ascribed the invention of bits and bridles.

LAPLACE, PIERRE SIMON, marquis de, a French astronomer and mathematician, born in Beaumont-en-Ange, Lower Normandy, March 28, 1749, died in Paris, March 5, 1827. Of the events of his early life he seldom spoke after he had attained rank and distinctions, but he is known to have been of humble origin, and to have been enabled by the assistance of rich friends to study at the college of Caen and at the military school of Beaumont, whence at the age of 18 he went to Paris with letters of introduction to D'Alembert and others. D'Alembert at first took no notice of Laplace; but receiving from him a remarkable paper on the general principles of mechanics, he at once interested himself in behalf of the young stranger, and by his influence procured him in 1768 or 1769 a professorship of mathematics in the military school of Paris. Thenceforth for more than half a century Laplace devoted himself to the pursuit of science with an ardor and industry productive of the most beneficial results, and which his participation in public business and politics never seriously interrupted. In 1773, when he was barely 24 years of age, his papers on the calculus and various astronomical questions, read before the academy of sciences, procured his admission into that body as an associate. A few years later he became examiner of the pupils of the royal artillery corps, and in 1785 he was elected a member of the academy of sciences. He subsequently lectured on analysis at the normal school, served in the board of longitude, and presented to the council of 500 a report of the proceedings of the institute from its establishment. The revolution drew him into the sphere of politics, in which he accomplished nothing worthy of his fame, and in which the ignoble traits of his character were prominently displayed. At first he appears to have been a radical republican, and in 1796 we find him before the council of 500 swearing eternal hatred to royalty. Two years later he paid his court to Gen. Bonaparte, fresh from his first Italian campaigns, thus securing his election to the institute; and after the overthrow of the directory he was intrusted by the first consul with the department of the interior. So little capacity did he display in this position, however, that in 6 weeks he was superseded by Lucien Bonaparte, and was appointed to a seat in the senate. Napoleon in his exile at St. Helena, with more point than justice, complained that Laplace "carried the spirit of the infinitesimal calculus into the management of business." In fact, the department was then one of the most difficult in France to manage, and a more experienced statesman than Laplace might have failed to discharge its functions properly. Un-

der Napoleon he was made vice-president and chancellor of the senate, a count of the empire, an officer of the legion of honor, and was the recipient of many other distinctions. He nevertheless turned against his benefactor when misfortunes overtook the latter, voted for his deposition in 1814, and was rewarded by Louis XVIII. with the title of marquis. He also suppressed in the 2d edition of his *Théorie des probabilités* (Paris, 1814) the dedication to "Napoleon the Great," contained in the edition of 1812, in which, as in the dedication to the 8d vol. of the *Mécanique céleste*, of which he did not live to publish a 3d edition, he had expressed himself under lasting obligations to Napoleon for numerous benefits. During the Hundred Days he refrained from presenting himself at the Tuileries, and after the second restoration of the Bourbons his employments were chiefly of a scientific character, the most important being the presidency of the commission for reorganizing the polytechnic school, and that of the academy of sciences.—As a physicist Laplace occupies a position second to that of no mathematical philosopher since Newton, and to his labors the science of astronomy owes the discovery of the invariability of the major axes of the planetary orbits, and of the great inequality of the motions of Jupiter and Saturn, the settlement of the problem of the acceleration of the mean motion of the moon, the theory of Jupiter's satellites, and other important laws. In his knowledge of physical principles he was probably superior to any contemporary analyst; and his invention, in conjunction with Lavoisier, of the calorimeter for measuring the capacities of bodies for heat, his discovery of the cause of the discrepancy between the theoretical and observed velocity of sound, his rules for barometrical measurement, and his theories regarding capillary attraction, tides, and atmospheric refraction, show that in some of the most important branches of general physics his mind was not less actively and profitably employed than in mathematical analysis. The crowning glory of his scientific career was his *Mécanique céleste*, a book which has been truly said to have had no predecessor, and which must wait for a second Laplace to arise ere it finds a rival. In it he sought to digest on a uniform scientific basis the abundant materials relating to the application of analysis to physical astronomy, which had been accumulating during nearly a century, and which, written in various languages, with differing notations and in various stages of scientific progress, presented a mass of matter not only difficult of access, but almost incomprehensible to any but the most recondite student. The result of his labors appeared in 16 books, published in 5 vols. 4to., with 4 supplements, between 1799 and 1825, and arranged as follows:—vol. i.: book i., "On the General Laws of the Equilibrium of Motion;" book ii., "On the Law of Universal Gravitation and the Motion of the Centres of Gravity of the Heavenly Bodies;"—vol. ii.: book iii., "On the

Figure of the Heavenly Bodies;" book iv., "On the Oscillations of the Sea and the Atmosphere;" book v., "On the Motions of the Heavenly Bodies around their Proper Centres of Gravity" (Paris, 1799; republished in 1829-'30);—vol. iii.: book vi., "On the Theory of the Planetary Motions;" book vii., "On the Theory of the Moon," and supplement i., "On the two great Inequalities of Jupiter and Saturn" (Paris, 1804);—vol. iv.: book viii., "On the Theory of the Satellites of Jupiter, Saturn, and Uranus;" book ix., "On the Theory of Comets;" book x., "On Different Points relative to the System of the World," and supplements ii. and iii., comprising the "Theory of Capillary Action" (Paris, 1805);—vol. v.: book xi., "On the Figure and Rotation of the Earth;" book xii., "On the Attraction and Repulsion of Spheres, and the Laws of the Equilibrium and Motion of Elastic Fluids;" book xiii., "On the Oscillation of the Fluids which cover the Planets;" book xiv., "On the Motions of the Heavenly Bodies around their Centres of Gravity;" book xv., "On the Motions of the Planets and Comets;" book xvi., "On the Motions of the Satellites," and supplement iv., "On the Development in Series of the Radical which expresses the Mutual Distance of two Planets" (Paris, 1828-'5). "Within this immense programme," says Professor Nicol, "placed as if parenthetically, one finds the most striking notices on almost every important problem of mechanical physics, any one of which would have made the fortune of an ordinary mathematician." In consequence, however, of his almost total neglect to refer to the labors of his predecessors or contemporaries in this, and indeed in all his works, it is difficult for the student to know how much of it belongs to Laplace and how much to others; and he has therefore, not without apparent reason, been sometimes considered more of a compiler than a discoverer. The name of Lagrange, his great contemporary and friend, is rarely mentioned, and one of the latter's finest analytic discoveries is on one occasion cursorily referred to as "the formula No. 21 of the 2d book of the *Mécanique céleste*." In like manner the claims of Taylor and Maclaurin to the theorems passing under their names are ignored, while his references to himself are innumerable. With all needful restorations and acknowledgments, however, almost any one of the original researches of Laplace contained in the *Mécanique céleste* is sufficient to stamp him as one of the greatest of mathematicians. The only translation of this work is that by Dr. Bowditch of Boston, with full commentaries. (See BOWDITCH, NATHANIEL.) Mrs. Somerville's "Mechanism of the Heavens" is a summary of a portion of the work. Laplace's remaining works consist of his *Théorie analytique des probabilités*, the most mathematically profound treatise on the subject which has yet appeared, and containing his celebrated method for the approximation to the values of definite integrals (Paris, 1812; 3d ed. 1820, with 4 supplements);

his *Exposition du système du monde* (2 vols. 8vo., Paris, 1796; 6th ed., containing a eulogium on the author by Baroche Fourier, 4to., 1885), "a résumé of all modern astronomy, unsurpassed for perspicuity and elegance in any scientific literature," translated by Prof. Pond; and over 40 important memoirs, principally on astronomical subjects, published between 1772 and 1828. Of the 8 works above named, an edition in 7 vols. 4to. (Paris, 1848-'7) was published under government auspices. He died after a short illness, saying to a friend in his last moments: "What we know is of small amount; what we do not know is enormous." He has been accused of holding materialistic views; but his writings give no evidence of a tendency in that direction, and the subject is one which he is known to have avoided. As a scientific writer he was singularly perspicuous and elegant, and his *Système du monde*, as a specimen of style, is called by Arago "one of the most perfect monuments of the French language."

LAPLAND (Lap. *Sameanda*; Swed. *Lappmark*; Rus. *Laplandiya*), a territory forming the northernmost portion of Europe, bounded N. by the Arctic ocean, E. by the White sea, S. by parts of Finland, Sweden, and Norway, and W. by the Atlantic; lying between lat. 64° and 72° N., and long. 14° and 42° E.; area, about 150,000 sq. m., $\frac{1}{3}$ of which belongs to Russia and the rest to Sweden and Norway; pop. estimated at 160,000, including Finmark. The N. and W. coasts are exceedingly irregular, indented with numerous bays, and faced with small islands. The shores of the White sea are more even, but the gulf of Kandalaska runs from it far into the S. E. part of the Laplandish territory. There are many lakes, of which the Enareä and Imandra, both in Russian Lapland, are the most notable. The lakes are connected with the sea by streams which, inconsiderable in autumn and winter, become large rivers in the spring. The most important water courses are the Tornea, Kemi, Kalix, Lulea, Pitea, Umea, Tana, and Alten. The Alten is navigable about 4 m. from its mouth at the Alten fiord on the Norwegian coast, and its valley is the richest and most extensive in Lapland, differing greatly from all the rest of the territory. The face of the country, from the northern shore of the gulf of Bothnia extending inland for about 80 m., is a plain, covered chiefly with forests of spruce and fir. The ground then rises gradually, terminating in lofty peaks of rock, which in lat. 67° and 69° exceed in certain places 6,000 feet in height. The descent from these ridges to the Arctic ocean is more abrupt than that toward the S. The limit of perpetual frost is 3,500 feet, so that there are many summits half a mile above the snow line. The rest of the surface is generally rocky, and, except in a few favored spots like the valley of the Alten, displays little vegetation beside sturdy forests and a few stunted bushes and perennial moss. The climate is much milder on the sea coast than in the interior. Owing to the influence of the Gulf stream, many of the

fiords on the Atlantic coast never freeze; and as the shores of Russian Lapland are much less indented with harbors or inlets than those of Norway, the Russian government have been making exertions of late years to obtain footing for naval stations within the limits of Norway. The bay of Varanger never freezes; and all the coasts of Lapland are usually free from ice early in May, while the Siberian coasts are ice-bound until the end of July. The temperature of the coast is much more uniform also than in the interior. The mean annual temperature at Cape North is about 80° F. The mercury at this point (lat. 71° 11' 30") seldom reaches 50° in midsummer; in the interior, 8° further S., it rises to 65°. At this latter point also the degree of cold is considerably greater than at Cape North. Summer begins in May and ends in September; and in the valleys, such as that of Alten and one or two others, seed time and harvest are completed within 3 months. Swarms of insects infest the valleys at this season, and, the sun being so many hours above the horizon, the heat becomes oppressive. In winter, the sun for many weeks is below the horizon, as in midsummer there are weeks of continuous day. In winter the darkness is relieved by unusual brilliancy of the moon and stars, and by the aurora borealis. The mountains, chiefly of primitive and transition rocks, abound in copper, iron, and other metallic ores, and an English company has profitable copper works near the Alten fiord. Lead, zinc, and arsenic are also found. The vegetable productions embrace the birch, fir, willow, mountain ash, various berry-bearing plants, roses, carnations, and other garden flowers, fruit trees, potatoes, turnips, rye, and wheat. Some of these, however, can only be raised in favorable seasons and the most sheltered situations; in many districts stunted birch trees are almost the only growth, and in others neither plant nor animal can survive. The reindeer is much the most valuable animal of the country. It is the beast of burden; it supplies the dairy, its flesh is the principal food of the people, and its skin affords them garments; its horns are made into useful implements, and its sinews are twisted into cord. Horses, oxen, goats, and sheep are seen among the Swedish and Norwegian immigrants; and in the forests are bears, wolves, gluttons, elk, hares, martens, squirrels, and the Lemming rat. Vast flocks of birds of passage are seen in summer. Aquatic fowl abound; eagles and lammergeyers are found in the mountains, and grouse, partridges, and capercaillies in the valleys. Salmon in the rivers, with herring and other fish, go to make up an apparent abundance. Yet the people are often victims of famine.—Of the 160,000 inhabitants of Lapland, 54,000 are in Finmark, about 60,000 in Swedish Lapland, and about 46,000 in the Russian territory lying west of the White sea. The Lapps proper, numbering about 11,000, from whom the country has its name, are an isolated race, whose origin has been a subject of much dispute. They are generally considered identical in origin

with the Finns, and once occupied the whole territory now called Lapland; but the progress of Gothic, Swedish, and Norwegian conquest pressed them gradually to the borders of the arctic circle. About the end of the 18th century the Laplanders around the gulf of Bothnia were subdued by an association of Swedish fur traders, who threw off their allegiance to their own country, but were reduced by Gustavus Vasa. His son Charles IX. took the title of king of the Lapps. At the present day the vernacular appellation of the Lapps is *Sabme*, "marsh," corresponding with that of the Finns, *Suomilainen*, "inhabitants of the marshes." The Finns refuse to acknowledge relationship, and the Lapps claim it as an honor. There are great moral and physical differences between the two peoples, but a striking affinity of language is a strong argument for their identity of race. The Lapps are of low stature, seldom exceeding 4 feet 9 inches in height, but of great muscular strength, hardy, and active. They have large heads, wide mouths, prominent cheek bones, long pointed chins, small, obliquely placed eyes without eyelids, a swarthy complexion, long, dark, glossy hair, and thin beards. They are subject to many diseases, and rarely live beyond the age of 50. Though not destitute of high moral and intellectual qualities, and noted for simplicity and hospitality, they are dishonest and intemperate. They are much addicted to the use of tobacco. The dress of the men consists of a leather coat, usually sheep skin, tight leather or woollen trousers, reindeer boots without stockings, and a woollen cap. The women wear a dark woollen robe, sometimes ornamented with silver trimmings. All their woven vestments are obtained from the Swedes and Russians. They are divided, according to occupation, into "mountain Lapps" and "sea Lapps." The former wander with their reindeer from pasture to pasture, and pitch their tents in the moss-grown tracts of the elevated country, where the lichens serve as food for the herds and are sometimes ground into flour by the people. The right of the nomadic Lapps to drive their herds promiscuously from one province to another has lately been a subject of dispute between Russia and Sweden, the former government demanding as an equivalent for the use of her territory by Swedish Lapps permission to form fishing stations on the Norwegian coast. The sea or fishing Lapps confine themselves to the shores, and carry on a small trade in fish, skins, beavers, and venison, in exchange for Swedish and Russian brandy, meal, salt, and tobacco. The religion of the people is Lutheran in Sweden and Norway, and Greek in Russia. They are visited by missionaries, schools are established among them, and a knowledge of reading and writing is generally diffused.

LA PLATA. See ARGENTINE CONFEDERATION.

LA PLATA, RIO DE. See PLATA, RIO DE LA.

LA POINTE, a N. W. co. of Wis., bordering on Lake Superior and touching Michigan; area,

about 2,808 sq. m.; pop. in 1855, 447. The surface is low in the N. and undulating in the S. and centre; the W. is occupied mainly by prairies. A large part of the land is occupied by pine forests, and the soil is rich. The productions in 1850 were 250 bushels of Indian corn, 288 of oats, 1,950 of potatoes, and 45 tons of hay. There were 1 saw mill, 2 churches, and 80 pupils attending public schools. Capital, La Pointe.

LA PORTE, a N. W. co. of Ind., bordering on Michigan and Lake Michigan, and drained by Kankakee, Little Kankakee, and Gallien rivers; area, 450 sq. m.; pop. in 1850, 12,145; in 1859, about 33,000. The surface consists partly of rolling prairies interspersed with groves of timber; the soil is generally fertile. The productions in 1850 were 668,949 bushels of Indian corn, 206,016 of wheat, 176,143 of oats, 21,822 tons of hay, and 57,891 lbs. of wool. There were 18 grist mills, 26 saw mills, 2 newspaper offices, 21 churches, and 5,700 pupils attending public schools.—**LA PORTE,** a city and the capital of the preceding county, situated in the N. part of Door prairie, at the junction of the Cincinnati, Peru, and Chicago with the Michigan southern and northern Indiana railroad, 12 m. from Lake Michigan, and 145 m. N. W. from Indianapolis; pop. in 1859, about 7,500. It is a place of active trade, and has a branch of the bank of the state of Indiana, and 1 semi-monthly and 8 weekly periodicals. In 1859 it contained 11 churches (1 Baptist, 1 Christian, 1 Episcopal, 1 Lutheran, 2 Methodist, 2 Presbyterian, 2 Roman Catholic, and 1 Swedenborgian), a steam flouring mill, a saw mill, a planing mill, a tannery, 4 manufactories of agricultural implements, machine shops of the above railroads, and an iron foundry.

LAPPENBERG, JOHANN MARTIN, a German historian, born in Hamburg, July 30, 1794. The son of a physician, he was sent by his father to study medicine at Edinburgh, but applied himself rather to historical and political researches. After visiting the highlands and the Hebrides, he went from Scotland to London, where he made a longer residence, studying the English government and constitution. He continued his legal studies at Berlin and Göttingen, and received the degree of doctor in 1816. He was sent by the senate of his native town during the congress of Troppau as minister resident to the Prussian court, and resided in Berlin till in 1828 he was appointed to the charge of the archives of Hamburg. In this office he discovered many valuable historical memoirs that were supposed to be lost, among which were the records of the old cathedral of Hamburg. He also made an important collection of diplomatic notes in a journey through the north of Europe. After the change in the constitution of Hamburg in 1848, he became a member of the new senate. In 1850 he took part as plenipotentiary in the negotiations at Frankfort, which ended with the pacification of Germany by the convention of Olmütz. Many of his his-

torical works, which are marked by a critical and elaborate investigation, relate to the antiquities of the Hanse towns, especially Hamburg, and of northern Germany. Among them are: *Urkundliche Geschichte des Ursprungs der Deutschen Hansa* (2 vols., Hamburg, 1830), a continuation of the work of Sartorius; *Die Geschichte Helgolands* (1831); *Hamburgisches Urkundenbuch* (1842); *Die Elbkarte des Melchior Lorichs* (1847); and *Hamburger Chroniken* (1852). His most remarkable work, both in respect of style and erudition, is the *Geschichte von England* (2 vols., Hamburg, 1834-'7; continued by Pauli, 2 vols., 1858-'5; translated into English by Benjamin Thorpe, under the title of "History of England under the Normans," with additions and comments by the translator, London, 1845-'57). He has made valuable contributions to the *Monumenta* of Pertz, and to the *Encyclopædie* of Ersch and Gruber, and has published editions of several old authors.

LAPWING, a plover of the genus *vanellus* (Linn.). The bill is shorter than the head, slender, and straight, vaulted and curved at the end of both mandibles; wings very long and pointed, with the 2d and 8d quills equal and longest; tail moderate, broad, and even; tarsi longer than the middle toe, rather slender; anterior toes united at the base, hind toe not reaching the ground; claws short and slightly curved. About half a dozen species are described in Europe, South America, and northern Africa. They live in pairs in marshy moors and in dry or open districts, collecting in winter into flocks on the downs and sea shore; their flight is rapid, and accompanied by a fanning noise, which has given them their name, and is performed with numerous singular evolutions and often repeated notes; they run with great speed on the ground. The food consists of worms, slugs, and insects; the nest is made of dried grass, and is placed in a slight hollow in the ground, generally containing 4 eggs; they adopt various stratagems to divert attention from the nest and young. The European lapwing (*V. cristatus*, Meyer) is a very handsome bird, of about the size of a pigeon; the upper parts are deep glossy green; the top of the head, crest, fore part of the neck, and breast black; sides of the neck, abdomen, and base of the tail white; a long delicate crest falls gracefully over the back; the tail feathers, except the outer, terminate in a large black space. The females and young have less metallic lustre, and their tints are less black. It is rather shy, but the males are very pugnacious in the love season; the eggs are greenish, spotted with black; incubation lasts 24 days. The flesh, though generally lean and dry, is esteemed as food, and the eggs are said to be delicious. It is widely distributed throughout Europe, northern Asia, and northern Africa. Some of the foreign species, as the *V. Cayanaensis* (Gmel.), have a spur at the fold of the wing, but in other respects resemble the European lapwing; they are very noisy, like most of the plovers. Other lap-

wings of allied genera have fleshy appendages and caruncles at the base of the bill, as well as spurs on the wings, and defend themselves bravely against birds of prey.—For characters of the family, see PLOVER.

LARBOARD, the left hand side of a vessel to a person standing at the stern and looking toward the bow; opposed to starboard.

LARCENY (Fr. *larcin*, Lat. *latrocinium*, theft), the taking and removing, by trespass, of personal property, which the trespasser knows to belong either generally or specially to another, with the intent of depriving him of his general or special ownership therein. To this definition some authorities, but not all, add the further element that the act must be done for the sake of some advantage to the wrong doer. It cannot indeed be doubted that the crime of theft may be fully committed although the act be done without any thought of one's own advantage, and exclusively for the benefit of another; as if he should steal bread or clothing for a hungry or a naked man. Circumstances like these might affect the moral character of the action, and might mitigate the punishment inflicted by the court; but they could not change the legal character of the case. Statute provisions have somewhat modified the common law conception of larceny, and particularly in defining the property which may be the subject of this offence. At common law this was personal property alone; of lands there can plainly be no larceny. But inasmuch as the law conceives that every thing attached to the land or realty partakes of its character, it would not be larceny, independently of statutes, to sever and carry away with felonious intent standing grain, or growing grass, or fruits from trees, or lead or copper fixtures from a building. But if these things were severed at one time and carried away at another, by two persons, or by the same person after an interval of time sufficient to render the two transactions distinctly separate, a larceny would be committed; for the property would become by the severance the personal property of the owner of the realty, and rest as such in his possession before the asportation. The too narrow and technical construction of the common law in this respect has been remedied by legislative enactments. The spirit of the prevailing law in the United States is well expressed in the language of a state statute which provides that "things which savor of the realty, and are at the time they are taken part of the freehold, whether they be of the substance or produce thereof, or affixed thereto, may be the subjects of larceny." It is also essential to the offence that the thing stolen be of some value, though the smallest value, less even than that of the smallest coin, is sufficient. The common law recognizes no value in choses in action, so called, that is, in notes and other personal securities. It esteems them mere evidences of valuable rights; and on the principle that their merely material worth is merged in their representative value, there can be no lar-

ony of such instruments, nor could a suit be maintained even for the value of the paper upon which they were written, unless they had been, by payment or otherwise, rendered void. This defect of the common law has also been remedied, and, by statutes, bank notes, books of account, notes and other valuable securities, are rendered subjects of larceny. The principle of value is also applied in the case of animals known to the law as *feræ naturæ*. It is the rule of the law that animals wild by nature are not subjects of larceny until they are reclaimed, and then only when they are fit for food. By the criminal law therefore there can be no larceny of dogs and cats and many other animals, however the civil jurisprudence may recognize a right of property in them.—A taking and a carrying away are also essential to constitute larceny, and an indictment for this crime must charge both these acts. If the party accused have for only an instant of time perfect control over the property, any, even the slightest, removal of the whole of it is sufficient. Thus one was held guilty of larceny who had snatched a watch, the guard of which, though for an instant free from the person of the owner, was while being withdrawn by the thief caught and arrested by a button. But where a purse became entangled by its strings with keys in the owner's pocket, though it had been raised from its place and out of the pocket, yet there was not a perfect control of the purse, and consequently no such carrying away as is essential to complete the offence.—The required ownership may be either general or special. Stolen goods restolen from a thief may be alleged in an indictment to be either his property, or that of the true owner. And it is said that one may commit larceny of his own property, if he take it from the possession of his bailee, with the intent to charge him for its loss.—It is further requisite to the constitution of the crime of larceny that there be a coincidence in point of time of two distinct intents, viz., an intent to trespass on another's personal property, and an intent to deprive him of his ownership therein. Therefore, if one too drunken to conceive an intent to steal take property, but surrender it before any such intent is entertained, there can be no conviction for larceny. Nor was this crime held to have been committed in a case where, though there was a trespass, the property was taken with the intention of converting only its use to the service of the trespasser. The rule is that the trespass must concur in time with the intent to steal. This rule may seem to be and perhaps is rather technical than reasonable; but it is firmly fixed in criminal jurisprudence, and a clear apprehension of it is necessary to the right conception of the crime of larceny.—Trespass is a wrongful act of force done to the possession of another. Therefore, in respect to larceny, there can be no trespass against an owner who has not the possession of the property taken. On this principle rests the familiar rule of law, that common carriers and other

bailees cannot commit larceny of the goods intrusted to them, so long as this relation exists; for under their contract of bailment they, and not the owners, have the legal possession of the property, and the essential trespass is therefore impossible. For example, the master of a ship, who steals one of several packages delivered to him to carry, does not commit larceny; but if he first break the package and then steal part of its contents, the offence of larceny is complete. The distinction between the two cases is clear. It is evident that the bailee must be first divested of his legal possession before the trespass is possible. In the former of the cases proposed, although by stealing the package without breaking its bulk he destroys the privity of contract between himself and his bailor, still the act is committed in respect of goods which at the time are in his legal possession; the termination of the contract and the act of conversion are simultaneous. But where the package is first broken, the act of breaking determines the contract of bailment and the right of the bailee to hold the property, for that is on the instant re-vested in the owner. Any act of conversion of the goods to the bailee's own use, after a trespass upon the owner's legal right has destroyed the trespasser's right of possession, completes the offence of larceny. A distinction is to be observed between this legal possession and a mere custody. Thus servants who have a thing in their custody to keep, or clean, or carry, have no right of possession; their possession is their master's possession, and he may at his own pleasure take the thing from their hands; therefore they may commit larceny of any goods in their custody which came to them by delivery from the master, or were otherwise in his legal possession.—In all cases in which the legal possession is rightfully acquired, it is plain that trespass and therefore larceny cannot be possible. This principle may be practically illustrated by the example of lost goods. The finder may lawfully take such goods into his possession. He acquires a special property in them, defeasible only by the owner, and in virtue of this has the legal possession, so that, though he afterward ascertain who the owner is, and with felonious intent convert the goods to his own use, he is not guilty of larceny. To constitute the crime in such cases, the finder must at the time of the finding either know the owner, or have means of knowing him, or have reason to believe that he may be found, and must at that time have the felonious intent of appropriating the goods to his own use. In those states where statutes provide that the finder of lost goods shall advertise them, a neglect to do so and an appropriation of the property would probably be held to constitute larceny.—The essential element and criterion of a trespass is the wrongful force. This force need not be exerted physically. It may consist in the unjust use of legal process. So it is a sufficient trespass to entice away an animal by the

voice, or by offering food. A thief commits a trespass when he has gotten the control of an article by inspiring fear in the owner. In these cases the law refers the surrender of the ownership to the thief's act of force. Not so, however, when one is induced by a fraud to part with his property. Whatever remedy the defrauded owner may have in such a case in civil jurisprudence, in the criminal law there is no larceny; and though the intent of the taker were ever so felonious, yet the owner's consent renders unnecessary the act of trespass without which, as we have seen, the offence is not complete. But if this consent extended only to a surrender of the possession, while the party who received the article intended at the time to steal it, that is, to divest the owner of his ownership, here the taking goes beyond the right conferred by the consent, and invades the property; the trespass is complete, and larceny is committed. For example, if one obtains goods by falsely personating the party who had ordered them, he is not guilty of larceny, whatever be his intent, for the owner means to pass the property in the goods by the delivery. But, on the other hand, if he gets the loan of an article, his concurrent intent being to steal it, the owner's consent avails him nothing, and he commits the crime. The same principle applies to those cases in which an owner delivers goods with the understanding that the property in them is to pass when the price is paid, but the taker's object is to get possession of them without any intention of performing this condition.—The second intent essential to constitute the crime is the intent to deprive the owner of his ownership, or of his whole right of property, in distinction from any mere particular interest in it. So that he is no thief who takes a horse, however wrongfully, with the intention of using and then returning him. Whether it be essential to the offence that it be committed *lucri causa*, as the phrase is, that is, for the sake of some advantage to the aggressor, is not quite certain; but it seems to be the better opinion, as we have already intimated, that it is not.—The common law distinction between grand and petit larceny, which was determined by the value of the thing stolen, is in the United States very generally abolished. Compound larceny is larceny aggravated by taking the thing stolen from the house or person of the party against whom the theft is committed.

LARCH. See **FR.**

LARCHER, PIERRE HENRI, a French scholar and author, born in Dijon, Oct. 12, 1726, died in Paris, Dec. 22, 1812. He early distinguished himself by his proficiency in Greek and English literature. In 1767 he engaged in a controversy with Voltaire in which he was thought to have the best of the argument. In 1778 he was admitted a member of the academy of belles-lettres, and on the establishment of the imperial university he was appointed professor of Greek in that institution; but he was then over 80 years old, and had to discharge his du-

ties by deputy. His death was the result of a fall. His reputation chiefly rests on the translation of Herodotus (Paris, 1786), which is valuable for its geographical and chronological notes.

LARD, the oily portion of hogs' fat, separated from the animal tissues by the process called rendering, which is melting it out at the temperature of boiling water, and commonly with the mixture of a small quantity of water. The best and firmest lard is obtained exclusively from the fat which surrounds the kidneys; but the common qualities of commerce are derived from the entire fat of the animal. To render this harder various adulterating substances are added, as mutton suet, starch, potato flour, and even caustic lime. Alum also is often added with the view of increasing its whiteness; and in England common salt and the carbonates of soda and potash have been detected in samples of it. The presence of water and its quantity may be determined by submitting a weighed portion to moderate heat; it escapes in bubbles, and when these cease to appear the loss of weight indicates the proportion. If starch is present, it will cause a solution of iodine with which a particle of the lard is mixed to turn blue or even black. The proportion of the adulterating ingredients sometimes amounts to more than 25 per cent., of which the chief article is some farinaceous substance. Water has been found to the extent of 12 per cent.; alum of 2 to 8 per cent.; and quicklime of 1 per cent. Lard as prepared is run into kegs, but the best qualities are collected in England in bladders, and are distinguished by the name of bladder lard. When pure, the article should be firm and white, and entirely free from taste or smell; it should melt at 212° F. without bubbling, and without depositing any sediment; the melted fluid should be nearly as clear and transparent as water. Its melting point varies from 78.5° to 87.5° F. Its composition in 100 parts, as given by Braconnet, is: stearine and margarine 88, oleine 62.—Lard is extensively used in culinary operations as an article of food; it enters into the composition of pastry, and is the material in which fish and other articles are commonly fried. In this operation the presence of flour is sometimes indicated by the substances fried adhering to the pan. In pharmacy lard is the material which forms the bulk of most of the ointments and cerates. A good article for this use, that contains no noxious ingredients, and is not liable to melt in warm climates, is difficult to be procured. The substance is also employed for lubricating machinery, for which use it is particularly important that it should be free from glutinous adulterants.—By the separation of the stearine and margarine from lard the oily product called lard oil is obtained. The manufacture of this is carried on to an immense extent in Cincinnati, where, as seen in the article **CINCINNATI**, its value is estimated at \$1,817,480 per annum, and that of lard at \$1,282,453. Of the stearine are made candles valued at \$1,834,972, and

other portions of lard enter into the production of soap, the value of which is rated at \$208,940. In 1850 it was estimated that 11,000,000 lbs. of lard would be made into stearine and lard oil, the stearine amounting to $\frac{1}{4}$ of the whole, and the oil to 24,000 barrels of 42 gallons each. A large portion of this oil is sent to France, where by the skill of the chemist it is incorporated with olive oil, to the amount of 60 or 70 per cent., the mixture then coming back to be sold as pure olive oil. Some interesting properties of lard when combined with rosin, in the proportion of 3 parts by weight of lard to 1 of rosin, were communicated by Prof. Olmsted to the American association at their meeting in New Haven in 1850. When melted together, the mixture is semi-fluid in cold weather. When applied to leather, it renders it very soft and impermeable to air and moisture, and it is particularly well adapted for lubricating the pistons of air pumps, as it is found to protect the brass from corrosion, which the ordinary lubricants induce. The rosin appears to prevent the formation of an acid in the lard, and thus the compound is well adapted to protect the surface of any metal from rust. When used for iron, a little powdered graphite may be added. When the mixture is used instead of other oily substances for making soap, the tendency of this to become rancid when wet and remaining damp is checked. Other uses readily suggest themselves. As an illuminating agent in solar lamps, Prof. Olmsted found lard oil combined with rosin superior for a time to lard oil alone, but the wick after a time became clogged, lessening the brilliancy of the light.—Over 28,000,000 lbs. of lard were exported from the United States in the year ending June 30, 1859, valued at nearly \$3,300,000.

LARDNER, DIONYSIUS, LL.D., a British writer on physical science, born in Dublin, April 3, 1798, died in Paris, April 29, 1859. After 4 years' experience in the office of his father, a solicitor, he entered Trinity college, Dublin, in 1812, and was graduated in 1817. He continued a resident member of the university until 1827. During his college career he evinced an extraordinary aptitude for mathematical studies, and gained between 15 and 20 prizes in metaphysics, pure mathematics, natural philosophy, astronomy, and moral philosophy. He took orders, and was for some time chaplain at his college; but he subsequently laid aside the title of reverend and desisted from all clerical functions. During his residence at the university he published various mathematical works, including an edition of the first 6 books of Euclid, with a commentary, and contributed a number of articles on mathematical subjects to the "Edinburgh Encyclopædia" and the "Encyclopædia Metropolitana," and a series on various branches of natural philosophy to the "Library of Useful Knowledge." In 1828 appeared his "Popular Lectures on the Steam Engine," for which he received a gold medal from the royal Dublin society. Upon the establishment of the London

university he accepted the professorship of natural philosophy and astronomy; and fixing his residence in London in 1828, he published in the same year a "Discourse on the Advantages of Natural Philosophy," and an "Analytical Treatise on Plane and Spherical Trigonometry." This was followed by the "Cabinet Cyclopædia," commenced in 1830 and continued till 1844, embracing 182 vols. 12mo. In this work Dr. Lardner secured the coöperation of the most eminent authors of the day in every branch of literature, and many of the treatises, historical, scientific, or economic, are still regarded as standard works. His own contributions comprised treatises on arithmetic, geometry, heat, hydrostatics and pneumatics, and mechanics, the last in conjunction with Captain Kater, each in 1 vol., and "Lardner and Walker's Treatise on Electricity and Magnetism" (2 vols.). While engaged on this work he wrote occasional articles on physical science and its application to the useful arts for the periodicals, and was frequently before parliamentary committees as a witness in behalf of railway companies. In 1840 he eloped with the wife of a Captain Heavyside, and came to the United States. He was sued for damages, and a verdict for £8,000 was entered against him. He married this lady after her husband's death. During 5 years' residence in America he delivered in the chief cities a series of lectures, which were published and have passed through 15 editions. On his return to Europe in 1845 he settled in Paris, where he resided until his death. His remaining works are: "Railway Economy" (8vo., 1850), valuable for its statistics; "Handbook of Natural Philosophy and Astronomy" (2 vols. 12mo., 1851-'2); "The Great Exhibition Reviewed" (12mo., 1852); the "Museum of Science and Art," a series of excellent popular treatises on the physical sciences and their application to the industrial arts, commenced in 1854 and completed in 12 vols. 12mo.; and handbooks of "Natural Philosophy and Hydrostatics," of "Pneumatics and Heat," of "Natural Philosophy and Mechanics," of "Natural Philosophy, Electricity, Magnetism, and Acoustics," and of "Natural Philosophy and Optics" (8vo., 1854-'6). His life was one of incessant labor, and few men have done more to diffuse scientific knowledge among the people.

LARDNER, NATHANIEL, an English Unitarian divine, born in Hawkshurst, Kent, in 1684, died there in 1768. He was educated at London, Utrecht, and Leyden, and was the author of many valuable theological works. That on which his fame chiefly rests is his "Credibility of the Gospel History" (5 vols. 8vo., 1757). There are two complete editions of Dr. Lardner's works, the last in 10 vols. 8vo. (London, 1828), and the other in 5 vols. 4to. (London, 1815).

LARES, a class of inferior divinities or protecting spirits in ancient Rome, domestic and public. Their worship was closely connected with that of the Manes, but only the spirits of the good were honored as Lares. The household Lares were headed by the *Lar familiaris*,

who was revered as the founder of the family. When the latter changed abode, he followed them. The worship of the public Lares is said to have been introduced by Servius Tullius; it was renewed by Augustus. They were considered as the protecting spirits of the city, and had a temple in the Via Sacra. There were others who were regarded as presiding over the several divisions of the city, over the rural districts, high roads, &c. In great houses the images of the household Lares had their separate apartment, called *adricula* or *lararium*. Their worship was simple; they received offerings in *patella*, especially on the calends, nones, and ides of every month. On joyful occasions they were adorned with wreaths. (See *PENATES*.)

LARISSA (Turk. *Yenitcher*), a town of European Turkey, in the district of Trikala, forming part of the province or eyalet of Salonica, in lat. 39° 52' N., long. 22° 40' 15" E.; pop. about 25,000, including 15,000 Turks, and the rest Greeks, Jews, &c. It is situated on a gently rising ground on the river Selembria (anc. *Peneus*), crossed here by a bridge of 10 arches. Larissa is the seat of a Greek archbishop and of a Turkish pasha, possesses some manufacturing establishments, and trades in the products of the country.—Larissa was an important town in the ancient Grecian province of Thessalia, and celebrated for its bull fights. It is said to have been founded by Acrisius, king of Argos. In process of time its inhabitants attained considerable power, and became lords of the surrounding plain, and the town the capital of Pelasgiotis. In the Peloponnesian war they supported Athens against Sparta. They were afterward reduced to subjection, in common with the other Thesalians, by the Macedonians under Philip, the father of Alexander. On the overthrow of the Macedonian kingdom their city was taken by the Romans, with whose destinies those of Larissa were bound up till the capture of Constantinople by the Turks.

LARISTAN, a S. province of Persia, bordering on the Persian gulf, and bounded landward by Kerman and Fars; area about 16,000 sq. m. It is one of the poorest divisions of the empire, consisting mainly of an arid sandy waste, with salt steppes and several mountainous elevations, the highest of which are Mounts Tcharek, Kor, Khalatu, and Nabent. There is a scarcity of water, the principal river being the Div-rood, and there is little or no agriculture beyond the raising of small quantities of wheat, barley, and dates. The coast is occupied by Arabs, who live under their own sheik, and pay an insignificant sum for tribute. Capital, Lar.

LARK, a conirostral bird of the family *alaudida*, coming in many respects near the finches. The family characters are: a short and conical bill with the frontal feathers extending along the sides; the first primary very short or wanting; the tarsi scutellate before and behind; the hind claw very long and nearly straight; the tertials greatly elongated beyond the secondaries and nearly as long as the primaries. The genus

alauda (Linn.) belongs to the old world, and is found on plains and cultivated lands, migrating to the south in winter; many species sing while rising into the air in large circles or in a perpendicularly spiral manner to a very great height; the flight is undulating; they walk and run with ease. The food consists of grains, small seeds, grasshoppers, gnats, and small worms; the nest is usually placed in the grass on the ground. The sky lark or field lark (*A. arvensis*, Linn.), so celebrated in poetry for its song, is very generally distributed over Europe, Asia, and northern Africa. It is about 7½ inches long and 15 in extent of wings; the general color of the upper parts in both sexes is light reddish brown with darker streaks, the fore neck the same with brownish black spots, the sides streaked with dusky, the lower parts dull white, an obscure brownish white band over the eye, the quills and the outer tail feathers edged with white, and the iris hazel. Though the plumage is dull, the form is elegant; its song is not finely modulated nor mellow, but it is exceedingly cheerful and prolonged, making the welkin ring in the sunny days of spring, and in early morning sounding from on high when the sprightly songster is entirely out of sight; this, combined with its extraordinary power of flight, has associated the lark with the most delightful recollections of rural life. It would be very difficult to imitate its song musically; it is occasionally uttered when the bird is on the ground, but usually as it commences its flight; the character of its different strains is such that it is said that one accustomed to the song can tell whether the bird be ascending, stationary, or descending. When on the ground larks are in the habit of crouching, so as to be perceived with difficulty; they rarely if ever alight on trees. They begin to pair in early spring, at which time their song begins, continuing until the middle of autumn; the 4 or 5 eggs are greenish gray, irregularly freckled with darker. The lark rests on the ground at night; its principal enemies are weasels and the smaller hawks. Its flesh is eaten, though inferior to that of the thrushes. It is often kept as a cage bird, even in America, as it sings nearly as well in confinement as when at liberty; to prevent injury from its soaring propensities, it is usual to pad the top of the cage.—The wood lark (*A. arborea*, Linn.) resembles the preceding in plumage, but is a smaller bird, being 6½ inches long, with an extent of wings of 12 inches; the habits are like those of the sky lark, except that it inhabits woody places and frequently perches on trees; the song, though less diversified, is more melodious, and has been considered inferior only to that of the nightingale; the eggs are pale yellowish brown, with darker lines and freckles. The crested lark (*A. cristata*, Linn.) has the head surmounted with an erectile tuft of feathers; it is stouter, with longer bill and shorter wings and tail, than the sky lark; it is common in southern Europe. The calandra lark (*melanocorypha calandra*, Boie) is the largest European

species; the color is brown above and whitish beneath, with a large blackish spot on the breast of the male. The habits are nearly the same as in the other species; the song is loud and pleasing; they are usually seen in pairs, and in autumn are very fat and esteemed as food; they are found in southern Europe. Other genera of the foreign larks are *pyrrhulauda* (A. Smith), found in flocks in Africa and India; *megalophonus* (Gray), from the dry plains of southern Africa; *mirafra* (Horsf.), from India and northern Africa; and *certhilauda* (Swains.), from Africa and Europe.—The only genus of the family found in North America is *eremophila* (Boie), differing from *melanocorypha* chiefly in having no spurious first primary; it has a pectoral crescent and cheek patches of black. The American sky lark or shore lark (*E. cornuta*, Boie; genus *otocoris*, Bonap.) is about 7½ inches long, with an extent of wings of 14 inches; the color above is pinkish brown, streaked with dusky on the back; a broad band across the crown, patch from bill below the eye, crescent on throat, and tail feathers black; frontal band over eye, under parts, outer edge of wings, and tail white, and chin and throat yellow; the colors are lighter in some specimens than in others, especially in winter. The principal peculiarity in the plumage consists in two erectile pointed tufts of feathers on the sides of the head, somewhat resembling the ears of the owls. It is distributed from Labrador over the prairies and desert plains of North America, visiting the Atlantic states especially in winter, when it is very fat and much esteemed as food. Audubon found this lark breeding on the desolate shores of Labrador, making its nest in the mosses and lichens in the beginning of July; the eggs, 4 or 5, are grayish, with numerous pale blue and brown spots; it returns to the south in the early part of September. The song of the males on the wing is very sweet, though comparatively short; the food consists of seeds, insects, and larvæ, and minute crustaceans on the sea shore. The horned lark of Europe and northern Asia (*E. alpestris*, Boie) is considered a distinct species; the habits are the same.—Birds of the family *syntroglida*, of the genus *anthus* (Licht.), generally called larks, will be described under TITLARK; the red-breasted and meadow larks are starlings, of the family *icterida*, and will be noticed under STARLING and MEADOW LARK respectively.

LARKSPUR. See DELPHINIUM.

LARNED, SYLVESTER, an American Presbyterian clergyman, born in Pittsfield, Mass., Aug. 31, 1796, died in New Orleans, Aug. 31, 1820. He was the son of Col. Simon Larned, an officer in the war of the revolution, and afterward representative in congress. He received his collegiate education at Middlebury, Vt., studied theology at Princeton, N. J., and was ordained in July, 1817. His earliest efforts showed such rare gifts of eloquence as had scarcely been witnessed since the days of Whitefield. In the autumn and winter following his ordination, he

proceeded to New Orleans by the way of Detroit, Louisville, and the Mississippi river, preaching whenever opportunity offered during the three months occupied in the journey. At New Orleans his eloquence made a profound impression on the public mind; an impression to which his personal character, his earnest devotion to his work, and a magnetic influence over men which characterized him alike in and out of the pulpit, added strength. A church was soon organized, and a congregation collected, over which he was settled as pastor, and a large church edifice erected. In the summer of 1820 the yellow fever broke out in New Orleans with unusual violence, and he was urgently entreated to seek safety in flight; but he refused to desert the post of duty, and fell a sacrifice to his fidelity. It is seldom that the death of one so young has caused a sensation of sorrow so universal and so profound as that which followed the announcement of his departure. A memoir of his life, with a collection of his sermons, was published in 1844 by the Rev. R. R. Gurley.

LA ROCHEFOUCAULD, FRANÇOIS VI., duke, prince of Marsillac, a French author and moralist, born Dec. 15, 1613, died March 17, 1680. He was in boyhood withdrawn from school to enter the military service, and at the age of 16 was engaged as an officer at the siege of Casale. Of a naturally timid, irresolute, and melancholy character, as he himself has recorded, and unfitted to be a political partisan, he was immediately involved in the intrigues which distracted the court. His father was banished to Blois in 1632 for some connection with the revolt of Gaston of Orleans, and he himself shared his exile, being suspected of hostility to Cardinal Richelieu on account of his intimacy with the friends of Queen Anne of Austria. At Tours he met in 1637 the duchess of Chevreuse, then in correspondence with the queen and the Spanish court. He entered with zeal into the intrigues of women against the cardinal; obtained permission to return to Paris at the moment when the queen, accused of communications with Spain, was subjected to a sort of judicial examination; and, in his devotion to her, accepted her proposal to guide her and Mlle. d'Hautefort in flight to Brussels. He had made preparations for this purpose, when he was discovered to have favored the flight of the duchess of Chevreuse into Spain, and was thrown into the Bastille. Released after 8 days, he went into retirement at Vertueil, preferring to adhere to the queen rather than to accept favors offered by the cardinal. There he lived as a country gentleman, an amateur of dogs, horses, and wines, at the same time corresponding with the enemies of Richelieu and participating in the projects of Cinq-Mars and De Thou. He returned to the court after the death of the cardinal (1642), was received with kindness but was unrewarded by the queen and Mazarin, and showed his resentment by attaching himself to the duke d'Enghien and forming a *liaison* with his sister, the duchess de Longueville, his devo-

tion to whom for several years was merely a matter of interest and calculation. In the wars and intrigues of the Fronde he served the party of the parliament, proved his valor in the defence of Bordeaux (1650), received a wound in the face, which for a time deprived him of sight, in the fight in the faubourg St. Antoine of Paris, and on the conclusion of peace abandoned the pursuits of ambition for a life of repose and reflection. He described his occupations thus far as a "business for fools and wretches, with which honorable and well-to-do persons should not mingle." To his brilliant and troubled relations with Mme. de Longueville succeeded the friendship of Mme. de Sablé, Mme. de Sévigné, and Mme. de Lafayette; his house became a resort of those most distinguished for wit and culture, of Boileau, Racine, and Molière; and the charms of conversation and the labor of composition displaced the agitations of public life. The subtlety of reflection and habits of meditation, which made him irresolute and unskilful in action, appear in his writings; and some of his severe judgments may be regarded as his retaliation for having been surpassed in practical skill by those whom he excelled in understanding. The first fruit of his leisure was his *Mémoires* (Cologne, 1662; 8d ed., 1664), which are among the most interesting memoirs of the intrigues against Richelieu and of the period of the Fronde. Three years later he published his *Réflexions, ou sentences et maximes morales*, a volume of 150 pages containing 360 detached thoughts; the first book, according to Voltaire, written in Europe after the revival of letters in a lively, precise, and delicate style, and which contributed more than any other to form the taste of the French nation. The fundamental and pervading thought, that self-love is the motive of all human actions, is presented under so various aspects and with so much acuteness of observation, that every maxim is piquant and suggestive, though few of them may be true. Though his philosophy is not metaphysical, but founded on the ways of the world, and though his statements are rarely absolute, but affirmed to apply only to the usual conduct of the greater number of persons, yet his rigid and persistent reduction of virtues into disguised vices justifies Rousseau in pronouncing it a "sad book." The only thing, he says, that is really injurious and justly condemned by men, is not vice, but crime. A few of the maxims are of a character to refute all the others, as: "Hypocrisy is a homage which vice renders to virtue;" "It is a greater shame to distrust one's friends than to be deceived by them;" "The greatest misfortunes of men are those into which they fall by their crimes." The *Maximes* passed through 5 editions in the lifetime of the author, and have been frequently republished. An excellent edition, prepared by Gratel-Duplessis, and edited by Sainte-Beuve, appeared in Paris in 1858.

LA ROCHEFOUCAULD-LIANCOURT, FRANÇOIS ALEXANDRE FRÉDÉRIC, duc de, a French statesman and philanthropist, born Jan.

17, 1747, died in Paris, March 27, 1839. Having fallen under the displeasure of Mme. du Barry, he found little inducement to attend the court of Louis XV., but passed his time chiefly on his estate of Liancourt, where, under the influence of a visit to England in 1769, he established a model farm. He also established there a school of arts and trades, which became the parent of the institution bearing the same name at Châlons. After the destruction of the Bastille in July, 1789, he was appointed president of the national assembly. His efforts to befriend the king, after the life of the latter had been menaced, having brought him into danger, he took refuge in England, where he was well received by Arthur Young, the well known improver of British agriculture, and subsequently travelled in the United States and Canada. Unable to endure his exile, he returned to France in 1799, and for some years lived in obscurity in Paris. Still busy with philanthropic plans, he aided in introducing vaccination into France, and inaugurated the system of dispensaries in Paris. The emperor Napoleon subsequently bestowed upon him the cross of the legion of honor, and admitted him to the chamber of peers, under his hereditary title. The duke resumed the charge of his estates at Liancourt, and after the restoration became a member of the general council of hospitals, and president of the society of Christian morals, in which capacity he labored to abolish the slave trade, and to suppress lotteries and gaming houses. He was for 23 years inspector-general of the school of arts and trades at Châlons, and a member of various public bodies of an industrial and philanthropic character, from most of which he was removed by the ministry in 1823 in consequence of his liberal political views. As a recompense for this persecution he was admitted a member of the academy of sciences, and the academy of medicine appointed him on the commission destined to replace the committee of vaccination, of which he had been president, and which had been suppressed by government. He subsequently inaugurated the system of schools for mutual instruction, and established the first savings bank in France. He was a voluminous writer on the subjects which interested him, and among his publications are works on pauperism, on public instruction, on savings banks, on prison discipline, &c. Among the fruits of his visit to America was an account of the prisons of Philadelphia (8vo., Philadelphia and Paris, 1796), and "Travels in the United States in 1796-98" (8 vols., Paris, 1800).

LA ROCHEJACQUELEIN, HENRI DU VERGER, comte de, a French royalist, born in the château of La Durbelière, near Châtillon-sur-Sèvres, Poitou, Aug. 30, 1772, killed at Nouaillé, March 4, 1794. His father, the marquis de La Rochejaquelein, having destined him for the career of arms, he was educated at the military school of Sorèze. At the outbreak of the French revolution, with a view of aiding in the defence

of the throne, he entered the constitutional guard of Louis XVI.; but after the massacre of the Swiss guards, Aug. 10, 1793, he retired to his native province, and, disdaining to follow his father into exile, joined his friend and neighbor, the marquis de Lescaur, in the movement organized among the people of La Vendée for the reestablishment of the monarchy. The peasantry having determined to select their leaders from the provincial nobility, the parishes around Châtillon made choice of La Rochejaquelein, who joined his followers at St. Aubin in March, 1793, and addressed them in a brief speech, ending with these words: "I am young and without experience; but I burn to show myself worthy to be your commander. Let us meet the enemy. If I advance, follow me; if I retreat, kill me; if I fall, avenge me!" The peasants, animated by his example, on the succeeding day attacked the republicans at Aubiers with irresistible force; and having effected a junction with the royalists of Anjou, they defeated the enemy in several encounters. At the attack upon Thouars, May 4, La Rochejaquelein, mounted upon the shoulders of Texier de Courlai, helped to detach with his own hands some of the stones from the wall, and was the first to mount it. At the battle of Fontenay, May 16, and the siege of Saurmur, June 9, he showed equal intrepidity; and in 5 days the royalist troops took 80 pieces of cannon and 12,000 prisoners, with the loss of fewer than 500 killed and wounded. In the less fortunate engagements at Luçon and Cholet, at which the chief Vendean leaders were killed or disabled, La Rochejaquelein performed prodigies of valor; and upon the assembling of a new army at Varades, on the northern bank of the Loire, whither the Vendéans had fled after their defeat at Cholet, he was chosen generalissimo, as the only one capable of reviving the spirits of the troops. Accepting with reluctance this responsible trust, which seemed incompatible with his extreme youth, he marched toward the coast of Brittany in the expectation of meeting there promised succors from England. On Oct. 23 he occupied Laval, driving out a large body of national guards, and on the 25th sustained an attack from the republicans under Lechelle, which resulted in one of the most glorious victories for the Vendéans during the war. The enemy were driven in scattered parties as far as Nantes and Rennes, losing 12,000 men and 19 pieces of cannon. Elated by their success, the royalists, 30,000 strong, attacked Granville, Nov. 14; but having no artillery with which to breach the ramparts, they received an unexpected check and were obliged to fall back with the loss of 1,800 men. This disaster disconcerted the plans of La Rochejaquelein, who was about to advance to Caen; and to add to his embarrassment a revolt broke out among his hastily assembled levies, whom it required all their commander's powers of persuasion to prevent from returning at once to their homes. As it was, a retrograde march toward the Loire had to be conceded to them. On their way they defeat-

ed a large body of republicans at Pontorson; but the latter, having rallied at Dol, Nov. 21, where they were largely reinforced, opposed the royalists with 85,000 men and a numerous park of artillery. The first attack of La Rochejaquelein's troops was irresistible, and the republicans were driven several leagues beyond the town. But here the left wing of the royalists, disordered in pursuit, was assailed in turn by the republican right and driven back in confusion into the town. A panic seized the whole royalist army, and their leader, after vain endeavors to stay their flight, threw himself in despair in front of a hostile battery in the hope of finding an honorable death. Fortunately a Vendean priest holding a crucifix in his hand was enabled by an appeal to their religious enthusiasm to rally 2,000 of the fugitives, and at length the combat was renewed with a fury unparalleled in the history of the war. For a long time the result was doubtful, but finally the republicans were routed in all quarters and fled toward Rennes, leaving 6,000 killed and wounded on the field. They, however, almost immediately concentrated at a strongly fortified position before Antrain, where another battle ensued, resulting in a complete victory for the Vendéans. On this occasion La Rochejaquelein with difficulty interfered to prevent his troops from retaliating upon their prisoners the dreadful acts of cruelty perpetrated by the republicans. Again the Vendean leaders projected an advance toward the coast for the purpose of opening communications with the English, and again they were compelled by open mutiny among their followers to continue their march toward the Loire. Arriving at Angers Dec. 3, they made a desperate but unsuccessful attack upon the place; and, wearied, disheartened, and encumbered by an immense and fast increasing train of sick and wounded, they retreated toward La Flèche, which La Rochejaquelein entered by a *coup de main*, and thence proceeded to Mans. Here they were attacked, Dec. 12, by 40,000 republicans under Marceau, Westerman, and Kléber, and, although reduced to about 12,000 men fit for duty, they confronted their enemies with unflinching resolution. Owing to the skilful dispositions of La Rochejaquelein the republicans were for a long time held in check outside the walls, but gradually they forced their way into the town, and for hours a terrible night conflict was maintained within the streets. Finally the royalists were overpowered by numbers and forced out of the town in a confused mass. Their leader, who had two horses killed under him and was wounded and overturned in the tumult, endeavored in vain to bring them to a final stand, and was borne off with his followers, who dispersed in various directions, leaving their baggage and almost all their artillery in the hands of the victors. La Rochejaquelein assembled the small remnant of his troops at Laval, Dec. 14, whence they moved to Ancenis to attempt the passage of the Loire. Here he embarked in a small boat

with a few of his men for the purpose of seizing some large vessels on the opposite side of the river; but being attacked by a numerous party of republicans, his men were killed or dispersed, and he was obliged to gain refuge in a neighboring forest. Thenceforth he led the life of a partisan chief, gathering around him a band of followers, with whom he frequently sallied forth from his lurking places upon the republican posts. On one of these occasions, his men being about to fall upon two republican grenadiers, he ran forward exclaiming: "Surrender! I give you quarter," and was immediately shot dead by one of them. His comrades buried him upon the spot, but his body was afterward interred in the cemetery of St. Aubin.—With many of the qualities of a great general, La Rochejaquelein possessed a daring courage, and at the same time a sweetness and humanity of disposition, which identified him with the *preux chevalier* of the age of chivalry. His personal exploits in battle were innumerable, and such was his martial enthusiasm that sometimes before making a prisoner he is said to have offered him the chance of escape by single combat. Although not 22 years of age at the time of his death, he was recognized as the main support of the royalist cause in western France, and his followers exclaimed over his grave: "Now the convention may indeed say that La Vendée no longer exists."—LOUIS DU VERGER, brother of the preceding, and commander of the last Vendean army, born Oct. 30, 1777, killed at Pontdes-Mathis, June 4, 1815. He emigrated with his father at the commencement of the revolution, and, after being employed in the military service of Austria and England, returned in 1801 to France and married the widow of the marquis de Lescure, one of the bravest of the Vendean leaders. He aided in the restoration of the Bourbons in 1814, and after protecting the flight of Louis XVIII. to Ghent in March, 1815, landed at St. Gilles on the Vendean coast, and aroused the ancient enthusiasm of the inhabitants in behalf of the royal cause. With a few thousand men he encountered an imperial division under Gen. Travot near the village of Mathis, and was killed at the commencement of the action.—MARIE LOUISE VICTOIRE DE DONNISSAN, wife of the preceding, born at Versailles, Oct. 3, 1772, died in Orleans in 1857. She shared in the horrors attending the war in La Vendée, and, after the final rout of the royalists at Savenay, escaped almost by a miracle into England. After the death of the marquis de La Rochejaquelein she resided in Orleans. Her *Mémoires* (8vo., Bordeaux, 1815) presents a vivid picture of the revolution in the west of France, derived from her personal experiences.

LA ROMANA, MARQUIS. See ROMANA.

LAROMIGUIÈRE, PIERRE, a French philosopher, born in Livignac-le-Haut, Aveyron, Nov. 3, 1756, died in Paris, Aug. 12, 1837. He was educated in the college of Villefranche-sur-Aveyron under the *doctrinaires*, of which learned

congregation he became a member. From 1774 to 1783 he taught the classics and philosophy in various colleges in the south of France. He held the chair of philosophy in the college of Toulouse from 1784 till the suppression of the religious communities in 1790. Removing to Paris, he became associated with Sieyès and other leaders of the national assembly, and attended the metaphysical lectures of Garat in the normal school. In 1795 he was appointed professor of philosophy in the Prytaneum (lyceum of Louis XIV.), and in the following year was elected a member of the academy of moral and political sciences. On the creation of the tribunate (1799), he became through the influence of Sieyès one of the magistrates designed to guard the interests of the people, but soon abandoned politics for his favorite philosophical studies. In 1811 he was called to the chair of philosophy in the faculty of letters at Paris, and his lectures, which continued for two years, attracted an audience of the most distinguished literary and scientific men of the capital. His professorship was filled by a deputy from 1813, but he continued to be librarian of the university. The academy of moral and political sciences was suppressed at the restoration, but on its reestablishment under the ministry of Guizot in 1832 Laromiguière resumed his place in it. Amid the vicissitudes of his time he passed a quiet life, devoted to science and to friendship, according to his chosen motto: *Bene qui latuit, bene vixit*. His philosophical system is a modification of that of Condillac, and prepared the way for the more decided reaction of Royer-Collard against the reigning ideology. Few writers have treated metaphysical subjects with so attractive a precision and elegance of style. His principal work is the *Leçons de philosophie* (2 vols., 1815-'18; 7th ed. 1858), which embraces the lectures delivered by him in 1811 and 1812, and has been from its first appearance adopted for public instruction in France. In the last two editions his other most important writings have been included with it.

LARREY, DOMINIQUE JEAN, baron, a French military surgeon, born in Baudéan, near Bagnères de Bigorre, in July, 1766, died in Lyons, July 25, 1842. He studied medicine and surgery at Toulouse, and in 1787 went to Paris, where he was appointed surgeon to a frigate in which he visited America. After returning to France he became an army surgeon (1792), and served during the wars of the revolution. It was at this time that he invented the *ambulances volantes*, for which he was rewarded with promotion to the rank of surgeon-in-chief. In 1798 he accompanied the French army to Egypt, where at Aboukir and Alexandria he displayed remarkable bravery. At Ansterlitz he attended to the wounded under the heaviest fire; at Eylau he saved a great number of wounded by his daring; at Essling he killed his own horses to make soup for the wounded when other food was wanting; on the battle field of Wagram he received the title of baron; while

in Spain and in Russia he extended the same care to the enemy's wounded as to those of the French. At the battle of Waterloo he was wounded, carried as a prisoner from post to post, and was about to be shot when he was recognized by a Prussian soldier and led to Blücher, the life of whose son he had formerly saved, and by whom he was sent under escort to Louvain. On the restoration, he was summoned by the emperor Alexander to Paris. He was, however, deprived of his pension, though he was made surgeon-in-chief of the royal guard. His pension was restored to him in 1818 by special resolution of the chamber. Napoleon in his will left Larrey 100,000 francs. "If the army ever erect a monument of gratitude," said the emperor, "it should be to Larrey." Two statues were in fact afterward raised to him, one in 1850 in the court of the Val de Grâce hospital, another in the hall of the academy of medicine. After the revolution of July, he travelled in Belgium, southern France, and Italy, for the purpose of studying epidemics. In 1842 he was engaged in inspecting the hospitals in Algeria, where he was attacked by pneumonia; he hastened to return to Paris, but died on the road. His discoveries relative to gun-shot wounds, the cholera, ophthalmia, tetanus, and extraction of foreign bodies from the brain and amputations, were all of the highest importance. There were few branches of surgery on which he did not advance new and valuable views. He was the author of a great number of medical works and memoirs, many of which have been translated into foreign languages.—His son, FÉLIX HIPPOLYTE, born about 1810, studied the medical profession, was with the French army at the siege of Antwerp, and is now surgeon in ordinary to Napoleon III. and medical inspector of the army. He has written several works on medicine and surgery.

LA RUE, a central co. of Ky., drained by Rolling fork of Salt river; area, 182 sq. m.; pop. in 1850, 5,859, of whom 672 were slaves. It has a rolling surface and a good soil. The productions in 1850 were 385,275 bushels of Indian corn, 17,578 of wheat, 73,465 of oats, 131,950 lbs. of tobacco, 18,348 of wool, and 17,682 of flax. There were 11 churches, and 500 pupils attending public schools. The Louisville and Nashville railroad passes through the county. Capital, Hodgenville.

LARYNX. See VOICE.

LA SALLE, a N. co. of Ill., traversed by the Illinois river and its affluents, the Fox and Vermillion; area, 1,050 sq. m.; pop. in 1855, 85,568. It has an undulating surface occupied chiefly by prairies, but in some places well timbered. The soil is of excellent quality. The county abounds in coal mines which yield an enormous revenue. The agricultural productions in 1850 were 637,483 bushels of Indian corn, 253,598 of wheat, 199,875 of oats, 25,179 tons of hay, and 88,063 lbs. of wool. There were 6 grist mills, 11 saw mills, 4 newspaper offices, 11 churches, and 1,405 pupils attending public schools. Capital,

Ottawa.—LA SALLE, a city of the preceding co., is situated at the head of navigation on the Illinois river, 16 m. W. from Ottawa and 98 m. W. S. W. from Chicago, at the junction of the Illinois central and Rock Island railroads and at the terminus of the Illinois and Michigan canal; pop. in 1858, 4,400. It is built on a bluff rising from the river, and enjoys a pleasant and healthful situation and great facilities for trade. Eight coal mines are in operation in the vicinity, employing about 1,000 men, and yielding coal of excellent quality. In 1858 the city contained 5 churches (Baptist, Congregational, Episcopal, Methodist, and Roman Catholic), several academies and schools, 2 weekly newspaper offices, a steam flour mill, a distillery, 2 breweries, 5 brick yards, 4 lime kilns, a planing mill, a foundry and machine shop, and manufactories of saleratus, soap and candles, and flint glass. Adjoining La Salle on the W., and separated from it only by an imaginary line, is the city of Peru, with a nearly equal population. The Illinois river is here 900 feet wide, and is crossed by a railroad bridge of 20 arches.

LA SALLE, ROBERT CAVELIER, sieur de, a French navigator, born in Rouen about 1635, died in Texas, March 20, 1687. He renounced his inheritance by entering a seminary of the Jesuits, but after diligent studies obtained his discharge, and about 1667 embarked for Canada to seek wealth by commerce or fame by new discoveries. As a fur trader at La Chine (which he so named from a cherished project of seeking by way of Canada a passage to China), he explored Lake Ontario, visited the neighboring Indians, established posts on the upper waters of the St. Lawrence, and was intrusted by Governor Frontenac with the care of the fort where the city of Kingston now stands. On returning to France in 1675 he obtained the rank of nobility, and the grant of a large domain around Fort Frontenac and of the exclusive traffic with the Five Nations. He was thus proprietary of a promising region, when the arrival of Jolliet at Quebec with the news of the discoveries by him and Marquette on the Mississippi induced him to undertake to extend their explorations, to seek the mouth of the Mississippi, and to form plans of colonization in the south-west. He again repaired to France. His projects were favored by Seignelay, minister of marine; and with Tonty, an Italian veteran, as lieutenant, and 80 mechanics and mariners, he returned from La Rochelle, July 14, 1678, to Fort Frontenac. He increased the works there in order to make it the emporium of commerce with the regions which he purposed to explore, established a trading house at Niagara, and spent a year in visiting the Indian tribes and collecting furs. The Griffin, a bark of 60 tons, was launched on the Niagara river in 1679, and he embarked in it with his colony (Aug. 7) for the valley of the Mississippi. He crossed Lake Erie and Lake St. Clair, and reached Green bay, Sept. 2. Meantime his creditors, thinking him lost, were selling at Montreal all his posses-

sions. To prevent this, he loaded his bark with a rich cargo of furs and sent it back, with orders to return immediately. He proceeded with his company in scattered groups in bark canoes nearly to the head of Lake Michigan, where he constructed a trading house and fort and waited in vain for the return of his vessel. With Hennepin and two other Franciscans, and Tonty and about 80 followers, he ascended the St. Joseph's, and traversed a bog to reach the Kankakee, which he descended till he came to an Indian village on the Illinois, probably near Ottawa. On the banks of Lake Peoria he formed an alliance with the Illinois Indians, whose first hostile disposition he skilfully changed to friendship. There, suffering anxiety for the Griffin, while discontent pervaded his company, 1,500 miles from the nearest French settlement, he built a fort which he named *Orèveœur* (heart-break). Having put Tonty in command in Illinois, and despatched Hennepin to explore the upper Mississippi, he returned (March, 1680) on foot with 8 companions to Fort Frontenac, and learned the ruin of his fortunes by the shipwreck of the Griffin and of another ship which had been despatched with resources for him from France. On his return he found that Tonty had been abandoned by his men, attacked by hostile Indians, and obliged to take refuge among the Potawatamies. Another year was lost in collecting his scattered followers, and on Feb. 6, 1682, he had descended the Illinois to its junction with the Mississippi. As he advanced, he noted the mouth of the Missouri, built a fort near that of the Ohio, and a cabin on the first Chickasaw bluff, raised the cross by the Arkansas, planted the arms of France near the gulf of Mexico, took possession in the name of France of the whole valley, and, on April 9, entered the gulf of Mexico, founded the fort of St. Louis, and gave to the adjacent lands the name of Louisiana. He retraced his steps, delayed a year among the lakes, and reached Quebec in Nov. 1683. He embarked for France, was welcomed by Seignelay as "the delight of the new world," and received a commission according to which all the French and natives of the country from Fort St. Louis to New Biscay were placed under his authority. An expedition for the colonization of Louisiana, with 4 vessels and 280 persons, departed from Rochefort, Aug. 1, 1684, but dissensions immediately arose between La Salle and the naval commander Beaujeu. They passed the coasts of Florida, and must have been near the mouth of the Mississippi on Jan. 10, 1685; but La Salle mistook their position, and the fleet passed on. A few days later he discovered his error and wished to return, but Beaujeu persisted in advancing W. even to the bay of Matagorda. There he determined to end the dissension by abandoning his associate. He disembarked with 280 colonists, most of his munitions were lost in a gale, and the fleet returned, leaving them almost without resources. Thinking himself near the Mississippi, he fortified the post of St. Louis, and made attempts in

agriculture, which were defeated by the ravages of beasts or of the neighboring tribes. Excursions over land and by canoes were alike ineffectual in bringing him to "the fatal river" which he sought, and he traversed a wilderness toward New Mexico, in a vain search for gold mines. The misery of the colonists increased, and Beaujeu's example of revolt began to be followed. La Salle, whose courage and energy had never failed, sought no longer to govern or to animate his followers by gentleness, but made himself a terror to them. Their number was reduced by manifold losses to 37, when, in despair of subduing their opposition or of carrying out any plan with such auxiliaries, he determined, Jan. 12, 1687, to seek by land the country of the Illinois, and thence to pass to Canada. He set out with 16 men, following the track of the buffalo, passed the basin of the Colorado, and reached a branch of Trinity river. They went in groups, and the malignity of two men, Duhaut and L'Arochevêque, who had embarked their capital in the enterprise, found an opportunity for gratification. They quarrelled with and murdered a nephew of La Salle. He suspected and asked one of them about the fate of his relative, when the other fired upon him from an ambush, and he fell dead. "Such was the end," says Bancroft, "of this daring adventurer. For force of will and vast conceptions; for various knowledge and quick adaptation of his genius to untried circumstances; for a sublime magnanimity, that resigned itself to the will of Heaven, and yet triumphed over affliction by energy of purpose and unfaltering hope, he had no superior among his countrymen." His life is included in Sparks's "American Biography."

LASCARIS, ANDREAS JOANNES, surnamed RHYNDACENUS, a Greek philologist, and a descendant of the imperial family of Lascaris, born on the banks of the Rhyndacus in Phrygia in 1445, died in Rome in 1535. He went to Italy on the final overthrow of the Greek empire, and found a refuge at the court of Lorenzo de' Medici, who sent him twice to Greece to collect valuable MSS. Before his return thence the second time Lorenzo died, and Lascaris, at the invitation of Charles VIII. of France, removed to Paris in 1495, and began to teach Greek publicly. In 1508 Louis XII. appointed him ambassador to Venice. In 1518 he went to Rome on the invitation of Leo X. to take charge of the Greek college and press lately founded there, and published editions of many of the Greek classics. In 1518 he returned to Paris, and assisted Budæus in forming the royal library at Fontainebleau. He was subsequently commissioned by Francis I. to proceed to Venice for the purpose of procuring Grecian youths to officiate in the Greek college of which that monarch then contemplated the foundation in the French metropolis; but being importuned by Paul III. to return to Rome, he did so, and died a few months after his arrival there. He edited the works of several of the Greek poets, and translated into Latin some military treatises.

tises of Polybius.—See Villemain, *Lascaris* (Paris, 1825).—CONSTANTINE, a Greek grammarian, of the same family as the preceding, born in Constantinople, died in 1493. On the capture of his native city by the Turks he repaired to the court of Francesco Sforza, duke of Milan, who intrusted him with the education of his daughter. He subsequently visited Rome and Naples, in both of which cities he taught Greek and rhetoric. A few years later he removed to Messina in Sicily, where he established a school which enjoyed great celebrity while he lived. He bequeathed his library and MSS. to the senate of Messina. These were afterward carried to Spain, and are still preserved in the Escorial. His *Grammatica Græca* (Milan, 1476) was the first Greek book printed.

LAS CASAS. See CASAS.

LAS CASES, EMMANUEL AUGUSTIN DIEUDONNÉ MARIN JOSEPH, seigneur de La Causseade and marquis de, a French historian, and one of the companions of Napoleon at St. Helena, born at the chateau of Las Cases, near Revel, in 1766, died at Passy-sur-Seine, May 15, 1842. He was educated at the school of the Oratorians in Vendôme, and at the military and naval schools of Paris, was with the allied French and Spanish fleets as a midshipman at the siege of Gibraltar, and was on board the French vessel the Royal Louis in the engagement off Cadiz. During the peace which followed he sailed to the West Indies, Newfoundland, Boston, Senegal, the isle of France, and the East Indies. When the revolution broke out Las Cases took part with the royalists, emigrated, and was charged by the prince of Condé with many diplomatic missions, among others with one to Gustavus III. of Sweden, then at Aix la Chapelle, who became his friend. After the defeat of the Prussians in Champagne he fled to London, where in his poverty he lived as a teacher. While here he executed his *Atlas historique et géographique* (1802), which he published under the name of Le Sage. When the *émigrés* were recalled by Napoleon, Las Cases returned to Paris, and for some time lived in obscurity. But having entered the army of Bernadotte (1809) he so distinguished himself as to gain the favor of Napoleon, who appointed him master of requests in the council of state, in 1810 made him chamberlain and count of the empire, and in 1811 confided to him the liquidation of the Austro-Russian debt. In 1812 he was sent to inspect through several departments the prisons, hospitals, and similar institutions, and to prepare a report of the condition of all the ports and naval stations from Toulon to Amsterdam. After the disasters of Leipzig and Moscow, Las Cases commanded the 10th legion of the national guard. In 1814 he refused to assent to the request for Napoleon's abdication, and went to England, whence he subsequently sent in his adhesion to the Bourbons. After the return from Elba he went back to France, and after the final defeat of the emperor at Waterloo followed him to St. Helena. Here with his son

he devoted himself to the care of Napoleon, and passed his evenings in recording the emperor's remarks, which were subsequently published in his *Mémorial de Sainte Hélène, ou journal où se trouve consigné, jour par jour, ce qui a dit et fait Napoléon pendant dix-huit mois* (8 vols. 8vo., Paris, 1822-'3). But having written a letter to Lucien Bonaparte commenting very freely on the treatment to which Napoleon was subjected, he was arrested, Nov. 25, 1816, and after 6 weeks' imprisonment at St. Helena was sent to the Cape of Good Hope, where he was confined 8 months, and finally taken to England. He was not suffered to land, but was conveyed to the continent, and conducted to Frankfort-on-the-Main, where he at last received his liberty after 18 months' captivity. He afterward resided in Belgium, but it was not until the death of Napoleon that he was allowed to return to France. The publication of his *Mémorial* is said to have brought him in 2,000,000 francs. Under the reign of Louis Philippe he was elected in 1831 and 1839 to the chamber of deputies, taking his seat at the extreme left, or with the ultra opposition. He wrote, in addition to the works above mentioned, his own life, *Mémoires d'E. A. D., comte de Las Cases, communiqués par lui-même* (Paris, 1819).

LAS OENIZAS ("the cinders"), a volcano in Guatemala, Central America, one of the group known as the volcanoes of Pacaya, in lat. 14° 21' N., long. 90° 36' W., 19 m. S. W. from the city of Guatemala; altitude, 5,100 feet. It was ascended in 1846 by an English traveller, R. G. Dunlop, who describes it as constantly burning. It has not however been in a state of destructive eruption since 1776, in which year it entirely destroyed the village of Tres Rios, 9 m. distant, filling up three considerable rivers, from which the village took its name.

LASKI, JAN, commonly known as JOHN Ł Lasco, a Polish divine, born in 1499, died Jan. 18, 1560. He was descended from a noble family, and had an uncle who was an archbishop. He himself entered the church, and rose to the rank of bishop; but having made the acquaintance of Zwingli and other reformers, he became a Protestant, and resigned his bishopric. After residing a while at Emden, and founding there the first Protestant church in that region, he went to London, where he had charge of a foreign Protestant congregation. Being compelled, on the accession of Mary in 1558, to leave England, he passed over to Germany, where he resided until 1556, when he returned to his native country. Here he became the head of the Protestant church in Little Poland, and exerted himself especially, during the remainder of his life, to bring about a union of all the Protestant churches of Poland. He was a learned man, and left a large number of theological works.

LAS PILAS, one of the great extinct volcanoes which constitute the volcanic chain of the Marabios, extending across the plain of Leon, in Nicaragua. It is broad and comparatively low, but has a vast crater, surrounded by many

smaller craters, or ancient vents. It was near the foot of this volcano, in the plain of Leon, that a volcanic orifice opened on April 12, 1850, around which was speedily accumulated a great mass of lava, cinders, stones, and ashes, forming a cone several hundred feet in height, which by its accretions promised to add another high volcano to those which stud the plain. The eruption ceased however at the end of a month, and has not since been renewed.

LASSA, or IL'ASSA, a city of Asia, and capital of Thibet, situated in a fertile plain on the banks of the Dzang-tsu, in lat. 29° 30' N., long. 91° 40' E.; pop. about 50,000. The streets are in general wide and regular, and the houses, whether constructed of mud, brick, or stone, have their walls whitened, and their doors and window frames painted red and yellow. It is surrounded with a wall, and contains some fine public edifices, the chief of which is a lamasery, or monastery. Lassa is a place of considerable commerce, and the resort of merchants from all parts of Asia. The most important articles of trade are linens, woollen cloth, cashmere shawls, sable furs, raw silk, musk, sugar, dried fruits, bullion, glass, and cutlery. To the N. W. of the city, and connected with it by two avenues, is the Buddha-la, or "mountain of Buddha," on which stands the palace of the grand lama, a magnificent structure 4 stories high, crowned by a gilded dome, and supported by columns covered with plates of gold. Thither pilgrims resort from all parts of eastern Asia to perform their devotions, and do homage to the supposed incarnation of deity.

LASSEN, CHRISTIAN, a German philologist and linguist, born in Bergen, Norway, Oct. 22, 1800. He studied at Christiania, Heidelberg, and Bonn, passed two years in London and Paris, and returned again to Bonn, where he became in 1830 extraordinary and in 1849 ordinary professor. In connection with Eugène Burnouf he deciphered many Pali MSS., and the result of their labors was published by the Asiatic society in an "Essay on the Pali or Sacred Language from the Peninsula beyond the Ganges." He published with Schlegel the *Ramayana* and the *Hitopadesa*. He was for many years editor of the *Zeitschrift für die Kunde des Morgenlandes*. His works, which are numerous and valuable, relate to a variety of oriental languages and ancient history, embracing, among other subjects, translations from the Hindoo philosophy, the history of Bactriana, Cabool, and India, and cuneiform inscriptions.

LASSO (Sp. *lazo*, a slip knot; Lat. *laxus*, loose), a cord with a slip noose, made either of hide or strongly twisted hair, used in some countries for catching wild cattle. It is from 20 to 30 feet in length, and is thrown in a peculiar manner. In South America the *vagüero*, or cattle driver, in catching an animal, rides at full speed, swinging the lasso around his head and increasing its motion as he approaches the victim, until "it shoots from his hand like a snake,

and a fiery horse is struggling in its coils." The *vagüero* holds one end of the lasso, with which he takes a turn around the high pommel of his saddle, his own horse being trained to resist the jerks of the captive by leaning to the opposite side. As soon as the lasso slackens after the first struggle, the rider spurs his horse, which, bounding forward, drags along the other, weakened under the throttling pressure of the noose. In catching horned cattle two *vagüeros* employ each a lasso. The first throws his lasso over the horns, and avoids by skilful curvets and occasional jerks the attacks of the bull. The second keeps behind, and, watching the opportunity when in running its hind feet are off the ground, at once slips the noose underneath one hoof and jerks it up. In catching bulls the lasso is generally not tied to the pommel, as they might prove so strong as to drag away both horse and man. Some *vagüeros*, when bent on catching a desperate bull, perhaps of peculiar swiftness, tie the lasso to the pommel, and this is called *amarrado a muerte*, "bound to death." For common purposes a turn around the pommel answers, when if the bull prove too strong they let go the end and escape. In California and Mexico the lasso is called a *lariat*. Similar to the lasso is an implement used for the same purpose, consisting of two leaden balls at either end of a long cord. These are thrown like the noose of the lasso, and at once wind the cord around any object with which they come in contact.

LASSO, ORLANDO DI, or ORLANDUS LASSUS, a Flemish composer, born in Mons, Hainault, in 1520, died in Munich, June 15, 1593. He was carried surreptitiously to Italy when a child on account of his fine voice, and until he was grown up was employed as a singer in Milan and Naples. Subsequently he returned to Flanders, settled in Antwerp, and passed the latter part of his life at Munich in the service of the elector of Bavaria. He was a contemporary of Palestrina, and one of the most famous composers of the age, excelling in harmony, and being one of the first to attempt chromatic passages. His secular music, consisting of Latin, Italian, German, and French songs, is better than his compositions for the church, in which he is far inferior to Palestrina. A statue has been erected to him in his birthplace. His works were published in Paris in 1576 under the title of *Mélanges d'Orland Lassus*, and in 1584 appeared *Continuation des Mélanges*.

LATAKIA. See LAODICEA.

LATERAN, the name of a church and palace in Rome, so called from the fact of their being built on the estate of the senator Plautius Lateranus, who was put to death by Nero for complicity in Piso's conspiracy. They are in the S. E. part of the city, near the walls of Aurelian and Honorius. The basilica of St. John Lateran (*S. Giovanni in Laterano*) occupies the site of the house of Plautinus, and was founded by Constantine in the 4th century. It was nearly destroyed by fire in the time of Clement V.,

but was restored by that pope, and has since undergone a number of modifications. It is a fine specimen of architecture, and contains many interesting works of art. It was long regarded as the first of Christian churches, bearing over the door the inscription: *Omnium urbis et orbis ecclesiarum mater et caput*. Five general councils were held under its roof; the popes are still crowned in it, and the ceremony of taking possession of the Lateran basilica is one of the first in the installation of a new pontiff.—The Lateran palace, adjoining the church, was the papal residence from the time of Constantine until 1877, when Gregory XI., on the return of the popes from Avignon, transferred the throne to the Vatican. Having been burned in the reign of Clement V., it was rebuilt by Sixtus V. from designs by Fontana. Innocent XII. made it a hospital in 1693, and Gregory XVI. converted it in 1843 into a museum, to which purpose it is still devoted. Beside collections of paintings and statues, it has a department of Christian antiquities, some of the most interesting of which are from the catacombs.

LATHAM, JOHN, an English ornithologist, born in Eltham, Kent, June 27, 1740, died in Romsey, Feb. 4, 1837. About 1768 he commenced the practice of physic in Dartford. In 1781-'5 appeared his "General Synopsis of Birds," in 6 vols., followed in 1787-1801 by two supplemental volumes. Departing from the system of Linnæus in the divisions of birds, he recognized but two orders, land and water birds; although, except in a few cases, he retained the Linnæan genera. His *Index Ornithologicus*, published in 1790, is an excellent book of reference, containing accounts of many new species. In 1796 he retired from practice, and thenceforth devoted himself to ornithological studies. A new edition of his works in 10 vols. 4to., enlarged and rearranged, with a general index, under the title of "General History of Birds," was commenced in 1821, in the author's 85th year, and completed in 1828. The plates of this, as of his former works, were executed or retouched by himself. He is also the author of a variety of miscellaneous papers on medical science and natural history.

LATHAM, ROBERT GORDON, an English philologist and ethnologist, born in Billingborough, Lincolnshire, in 1812. He was educated at Eton and at King's college, Cambridge, and subsequently took the degree of M.D. After the completion of his studies he travelled in northern Europe, and while in Norway studied the idioms of the Scandinavian tongues. Upon his return to England he published a translation of Bishop Tegnér's poem, "Alexis and Frithiof," and "Norway and the Norwegians" (2 vols. 8vo., 1834). He now varied his professional labors by the publication of an "Abstract of Rask's Essay on the Sibilants," and an "Address to the Authors of England and America," the object of which was to effect to some extent a modification of the existing alphabet. In 1840 he was appointed professor of English literature

in University college, London; while so engaged he published a series of works on the history and structure of the English language. The chief among these was his "Treatise on the English Language" (2 vols. 8vo., 1841), of which a number of editions have since appeared. He next gave his attention to ethnology; his first publications on this branch of science were "Natural History of the Varieties of Mankind" (8vo., 1850), and "Man and his Migrations" (12mo., 1851). He has also published "Ethnology of the British Colonies" (12mo., 1851), "Ethnology of Europe," "Ethnology of the British Islands," and "Descriptive Ethnology" (2 vols. 8vo., London, 1859). He has produced an edition of the *Germania* of Tacitus, with notes historical and philological (1850), and has read many important papers before the British association for the advancement of science. As a physician he has held a high position, and lectured on medical jurisprudence at the school of the Middlesex hospital. He has for some years been engaged in preparing a new edition of Johnson's "Dictionary."

LATHROP, JOSEPH, D.D., an American clergyman, born in Norwich, Conn., Oct. 20, 1781, died in West Springfield, Mass., Dec. 31, 1820. He was graduated at Yale college in 1754. After studying theology for more than a year under the direction of the Rev. Robert Breck, at Springfield, Mass., during which time he was engaged in teaching a school, he was licensed to preach, and in Aug. 1756, was ordained as pastor of the Congregational church in West Springfield. Having been obliged to suspend his labors for nearly 3 years on account of his health, an impostor named John Watkins intruded into his parish, and occasioned a somewhat serious disturbance, that led him to preach his celebrated sermons entitled "Wolves in Sheep's Clothing," which have been widely circulated in this country and Great Britain. He received the degree of D.D. from Yale college in 1791 and from Harvard university in 1811. In 1792 he was elected a fellow of the American academy of arts and sciences. In 1798 he declined an invitation to the chair of professor of divinity in Yale college. He continued to preach steadily until March, 1818, when in consequence of the infirmities of age he requested his congregation to supply him with a colleague. His sermons were simple, clear, sensible, and often strikingly original. On account of his great reputation for practical wisdom, his labors were perhaps oftener put in requisition to settle ecclesiastical difficulties than those of any other minister of his day in New England. He was a voluminous writer, though, with the exception of a small volume entitled "A Miscellaneous Collection of Original Pieces," &c., published in 1786, and one or two letters and addresses, all his publications consist of discourses which he had delivered from the pulpit. Of these there are 7 volumes, the last of which contains his autobiography.

LATIMER, HUGH, an English bishop and reformer, born in Thurstaston, Leicestershire,

about 1490, burned at the stake in Oxford, Oct. 16, 1555. The son of a farmer, he was sent to the university of Cambridge when about 14 years of age, was chosen a fellow of Clare hall in 1509, and received the degree of M.A. in 1514. He then began the study of divinity, and was, as he says himself, "as obstinate a papist as any in England," but became a Protestant chiefly through the influence of Bilney. It was probably about 1521 that he began to display that energy and enthusiasm in the pulpit which made him one of the most admired of the preachers at Cambridge. He soon after delivered a sermon in presence of the bishop of Ely and numerous priests, in which he drew a contrast between Christ as the exemplar and the English prelates of the day. For this he was forbidden by the bishop to preach in the churches of the university, but being summoned before Wolsey was dismissed with merely a gentle admonition, and was licensed to preach in any church throughout England. In 1529 he preached two sermons "On the Card," maintaining the expediency of intrusting the Scriptures in English to the people; and the disturbance which they occasioned was settled, after investigation before the vice-chancellor, by binding both him and his opponents to abstain from offensive expressions against each other in the pulpit. In the following year he favored the divorce of Henry VIII. from Catharine, and was appointed one of the royal chaplains, but remonstrated against the king's inhibition of all English books containing any matters of Scripture. Appointed to the living of West Kingston, Wiltshire, he found a larger field for his zeal and activity by travelling extensively, everywhere occasioning excitement and complaints by his sermons. In 1532 he was prosecuted before the bishop of London, the archbishop of Canterbury, and the convocation, and was at first excommunicated, but was ultimately relieved of all penalties on condition of signing a portion of the articles proposed to him. On the elevation of Cranmer to the primacy in 1533, Latimer was recalled to his royal chaplaincy, and preached before the king on all the Wednesdays of Lent in 1534. He was consecrated bishop of Worcester in 1535, and in 1536 opened the convocation with two of his boldest sermons. Devoting himself with great diligence to his special episcopal duties, he did not again appear prominently till in 1539 he resigned his see on the passage of the 6 articles making it penal to impugn transubstantiation, communion in one kind, celibacy, the lawfulness of monastic vows, private masses, and auricular confession. He lived in great privacy and was for a short time imprisoned during the latter part of Henry's reign, and after the accession of Edward VI. declined, probably on account of ill health, to receive back his bishopric, which was offered him at the instance of the house of commons. He was one of the most noted and eloquent preachers of this reign, but left to others the public direction of the reformation. After the

establishment of Mary on the throne a pursuivant was sent into Worcestershire for his arrest; he was apprised of his danger, and time was allowed him sufficient for escape, had he been disposed to flee; but he refused to avail himself of the opportunity, and was committed to harsh confinement in the tower. In 1554 he was conveyed to Oxford with Cranmer and Ridley, to hold a disputation on the subject of the mass with several doctors from the universities. He pleaded that he was old, sick, and had used the Latin tongue but little for 20 years; he was therefore permitted to give in a long profession of faith in writing, for which he was condemned as a heretic, and imprisoned during more than a year in Bocardo, the common gaol of Oxford. He was then summoned again before the commissioners, but refusing to recant, was condemned to the stake. The sentence was executed on him and Ridley, "without Bocardo gate," opposite Baliol college, where the splendid martyrs' monument now stands. He met his fate with courage, exhorting his fellow sufferers: "Be of good comfort, Master Ridley, and play the man; we shall this day light such a candle, by God's grace, in England, as I trust shall never be put out." Latimer was rather remarkable for piety and eloquence than for learning and ability. "There may be other reformers," says Tulloch, "that more engage our admiration; there is no one that more excites our love." His sermons, in a pithy and homely style, reveal the simplicity and earnestness of his character. The latest edition of them, prepared by the Rev. G. E. Corrie, was published in London in 1845 in 4 vols. 8vo.

LATIN LANGUAGE AND LITERATURE. From the country of Latium, the central region of Italy, is derived the name of the language which, formed from various sources, became the speech and shared the fortunes of ancient Rome. One of the two most illustrious members of the Thraco-Pelasgian family, the elements which composed it were diverse, though for the most part kindred, since recent linguistic discoveries have shown that nearly all the earliest inhabitants of the Hellenic and Italic peninsulas were ethnically connected and constituted in reality but a single race. The Etruscans were perhaps the only exception, their language being excluded by most scholars from the Indo-European family. Latium was surrounded in the south by colonies of Greeks, as the Ctenotrians, Peucetians, Messapians, and Daunians, by the Tyrrhenian Pelasgi on the plain of the Po, by the Ligurians at the foot of the Alps, by the Umbrians, by the Ausonians on the Tiber, the Oscans at the foot of Vesuvius, and the Etruscans on the Arno. Fréret and Amédée Thierry connect the Umbrians with the Gauls; Wilhelm von Humboldt proves the relationship of the Ligurians with the Iberians or Basques of Cantabria; and Funocius ascribes the origin of Latin to Germany, from which country Niebuhr and K. O. Müller derive the Etruscans. These opinions suggest the extent and diversity of the influences

which operated on the formation of the language. Latium, lying between the territories of Greeks and barbarians, overrun in turn by both, and peopled at last by different tribes, developed a language partaking of the idioms of its neighbors. Its principal constituents were Greek, Etruscan, Umbrian, and Oscan. The Latin, however, is the sister and not the daughter of the Greek, since many of the Indo-European roots which they have in common did not reach Italy by the way of Greece. The predominance of their common roots is shown by F. E. J. Valpy, who professes to derive every word in the *Æneid* from a Greek primitive. Some words are simple transplantations from the Greek, apparently after intercourse subsisted with Magna Græcia, as *thesaurus*, *athleta*, *emblema*, *philosophia*, *ephippium*; others obviously correspond to Greek words, without perhaps being historically related, as *fama*, *anchora*, *triumphus*, *vestis*, *dexter*, *ago*; and many others are either not related to Greek, or their family likeness has been completely obliterated, as *meta*, *lorica*, *clavus*, *insula*. The terms of husbandry and domestic occupation are mostly Greek, as *aratrum*, plough, *bos*, ox, *ovis*, sheep, *agnus*, lamb, *equus*, horse, *canis*, dog, *seco*, to sow, *ager*, field, *sylva*, forest, *lactis*, milk, *mel*, honey. Those of warfare, on the contrary, are not manifestly Greek at all, as *arma*, arms, *ensis*, sword, *hasta*, spear, *gladius*, sword, *sagitta*, arrow, *jaculum*, javelin, *balteus*, sling, *clipeus*, shield. Hence it is concluded that the indigenous Pelasgi were subdued by victorious invaders, as in Greece they were absorbed by the Hellenes. This view is confirmed by the fact that the terms for the simplest ideas are Greek, as *sto*, to stand, *sedeo*, to sit, *cubo*, to lie, *maneo*, to remain, *video*, to see, *tango*, to touch, *fero*, to carry, *volo*, to wish, *gnoeco*, to know, *memini*, to remember; while the terms referring to government and laws do not appear to be Greek, as *rex*, king, *civis*, citizen, *testis*, witness, *jus*, law, *lis*, lawsuit. Words relating to religion are usually not Greek, and may have been furnished by the Etruscans. That the conquerors did not come by sea is indicated by the fact that most of the maritime terms are Greek, as *navis*, ship, *prora*, prow, *pinus*, oak.—The Latin language has 23 letters, viz.: A, B, C, D, E, F, G, H, I, K, L, M, N, O, P, Q, R, S, T, U, X, Y, Z. *I* was used to represent both the vowel *i* and the consonant *j*, and in like manner *U* represented the vowel *u* and the consonant *v*. A distinctive form for the vowel *u* was first introduced in the middle ages, and for the consonant *j* not until A. D. 1500. The letter *k* fell later into desuetude, and was supplanted by *c*, except in the word *kalenda* and a few others. *Y* and *z* occurred only in Greek words, and came late into use; at an earlier period *i* was used instead of *y*, and *ss* instead of *z*. *X* is also of later origin, *cs* or *s* having formerly been used in its place. *W* does not appear until the inroad of the Goths in the 5th century. Common diphthongs are *æ*, *au*; more rarely *ui*, *oi*, *ei*, *eu*, and *æ* occur, while *ai*

and *ou* belong only to the ante-classic period of the language.—The pronunciation of Latin has been in the main uniform on the continent of Europe, while in England and America the letters have generally been sounded as in the English language. Thorough investigations made of late on this point have established almost beyond doubt that the English pronunciation in many, and the continental in some points, need a reformation. The letter *c* was undoubtedly pronounced in every case like *k*; only the syllable *ci*, if followed by a vowel, must have early assumed a hissing sound, because it was confounded, in writing, with *ti*; but even this seems to have been foreign to the classic period. The letter *m* at the close of a word had not the full power of that consonant, but its pronunciation probably corresponded to that of the French *m* final; and if the following word commenced with a vowel, it was not heard at all. The letter *s* had a sharp sound (like the Greek *σ* and the modern Spanish *s*), which explains the variations in writing several words, as *causa* and *caussa*. *S* and *r* were frequently interchanged, as in *Valerius* and *Valerius*, *labos* and *labor*. The vowels, in general, had the same pronunciation as in modern German, Italian, and Spanish. In poetry the coming together of two vowels at the close of one word and at the beginning of the following was considered contrary to euphony, and to avoid it the first vowel was elided (as in *supere aude*, pronounced *super'aude*). The aspirate *h* at the beginning of the second, and *m* at the close of the first word, were elided together with the vowel (as in *tollere humo*, pronounced *toller'humo*; *multum ille*, *mult'ille*). The elision of final *s* in the terminations *us* and *is* before consonants, belongs only to the earlier poets. The many signs of punctuation introduced into the modern editions of the Latin classics were not known to the ancient Romans, who used only the period. The characters used in writing greatly resembled in the earliest period of the language those of the Greek language. The Romans used only the large letters (*litteræ unciales*), and, on account of the inconvenience experienced in rapid writing, adopted certain marks of abbreviation (*notæ*).—The words of the Latin language may be reduced to 8 classes. 1. The substantive, as to gender, may be either masculine, feminine, or neuter, the gender being determined either by the termination or signification. Generally 5 declensions are assumed, though the 4th and 5th may be regarded as subdivisions of the 3d, and thus the number of declensions be made to correspond to the Greek. Each of the 5 declensions has 2 numbers, singular and plural; the dual of Sanscrit and Greek is entirely wanting. The number of cases is 6 (one more than in Greek), viz.: nominative, genitive, dative, accusative, vocative, and ablative. The last serves at the same time as the instrumental (of the Sanscrit), as temporal, and as modal. Of a 7th case, the locative (as in Sanscrit), some ram-

nants maintained themselves in the proper names of towns (*Roma* for *Romai*, *Corinthis*, *Carthagini*), and in local adverbs (*ibi* and *ubi*). The literary dependence on the Greeks, to which the Romans early submitted themselves, was shown by admitting nearly all the Greek terminations of Greek proper names unaltered into the Latin. 2. The adjective is either of 8 endings, one for each gender, or of 2, one ending being common to the masculine and the feminine (*generis communis*), or of only one for all 8 genders (*generis omnis*). All adjectives are declined after one of the first 3 declensions, and most of them admit of 2 higher degrees, the comparative, ending in *ior* for the masculine and feminine, and *ius* for the neuter, and the superlative, ending in *imus*, *ima*, *inum*. The participles and ordinal numerals share all the peculiarities of the adjective. 3. The pronouns are personal, of very irregular inflection; possessive, which are declined like the adjectives; demonstrative (*hic, ille, is*), relative (*qui*), interrogative (*quis? qui?*), indefinite (*aliquis*), and reflective (*se*). The personal pronouns are nearly identical with the Greek, as *ego, ego, tu, tu, nos, vos, ois, ois*. There is no separate form for the pronoun of the 3d person, the demonstrative and reflective pronouns being used to express it. 4. The verb is in its inflection inferior to the Sanscrit and Greek, having only two voices, active and passive, and 6 tenses, present, imperfect, perfect, pluperfect, future, and future anterior. The active voice comprises two classes of verbs, transitive and intransitive or neuter, to which sometimes a third is added, that of *verba neutralia passiva*, verbs with active form and passive signification (*flo, capulo, venio*). A large class of verbs, called deponents (*i. e.*, laying aside passive signification), agree entirely with the passive in form, though they seem to have an active (partly transitive, partly intransitive) signification. No special form has been developed for the middle voice, though many facts (double forms, such as *verto* and *vertor*, I return; past participles construed with an accusative, as *adportus vultum*, having covered to himself the countenance; the signification of most deponents, &c.) show that to the passive form the middle or reflective signification was no less inherent than the passive. The Latin also lacks special forms for the optative mode and the aorist tense; and its participle is but imperfectly developed, only two participles being found in each voice, the present and future in the active, and preterite and future in the passive. The use of the imperfect is restricted to one tense, the present. The gerund (as *amandi, amando*, of, to loving) and the supine (*amatum, amatu*, to love) are an exclusive property of the Latin. The comparative study of the Indo-Germanic languages has established a very close resemblance of the Latin to the Sanscrit and Greek in the formation of the persons. The letters *m, s, t* appear to have been in all these languages the characteristic consonants in the termination of the 3 persons. The *s* and

t appear as such throughout the Latin conjugation; the *m* everywhere in the first person plural, and in the first person singular in all tenses of the subjunctive, in all imperfects (*bam*) and pluperfects (*ram*) of the indicative; while in the present indicative, where also the Greek has only retained a few, not numerous, classes of verbs in *mi*, the *m* has everywhere given place to *c*, except in two solitary representatives of the old language, *sum* and *inquam*. The verb has, like the nouns, only 2 numbers, singular and plural. The 4 classes of words which have been mentioned are subject to inflection; the following 4 are inflexible, viz.: 5, the prepositions, which govern either the accusative or the ablative, or both accusative and ablative; 6, the conjunctions, which either govern always the subjunctive, or only on certain conditions; 7, the adverb, which generally admits of the same gradation as the adjective; 8, the interjection. In particles generally the Latin is incomparably inferior to the Greek, but these classes of words seem to have been more numerous in the earlier periods of the language. —Thus the historical progress of the language was directly opposed to that of other tongues, since it became synthetical instead of analytical as it advanced. Its slight tendency to synthesis appears from its deficiency in compound words. The roots are never grouped as in Sanscrit and German into long compounds, and Pacuvius in the 2d century B. C. vainly attempted to introduce even the simple mode of combination practised by the Greeks. The absence of the definite article is often a cause of obscurity, though it gives conciseness and vigor to the discourse. It constrains the writer especially in didactic works, and modern scholars have sometimes found it necessary to give the requisite clearness to their Latin style by introducing the Greek article in parenthesis. —Nearly all that was not related to the Greek in the Latin was derived from the Etruscan, Umbrian, and Oscan languages. The Etruscans, the most powerful of the early Italian tribes, gave to Rome its early constitution, religious discipline, regal insignia, and a royal line. The young men of the Roman aristocracy were educated in Etruria. Their language was probably Semitic (see ETRUSCAN LANGUAGE), and must have influenced that of Rome. Its most important monument is a pillar discovered at Perugia in 1822. The Opican or Oscan language was extensively spoken in the middle and southern portions of Italy, and comprises the larger portion of the non-Greek elements of the Latin. The difference between the Oscan and the Latin was dialectical, but was progressively increased by the opposition in the habits of the races which spoke them. The Oscans were stupid, sensual, barbarous, and proverbially notorious for their ignorance of Greek and their antipathy to it. The word *Opicus* in Latin was a far more contemptuous epithet than *barbarus*. The Oscan dialect therefore receded from the Greek, to which the Romans were led with the progress

of refinement more and more to conform. The monuments of it now remaining, as the Bantine table, resemble an illiterate vulgar corruption of Latin. One of the most ancient peoples in Italy was the Umbrians, whose city Ameria is said to have existed 381 years before Rome. The monuments are sufficient to supply a nearly complete grammar of their language, which bears a close affinity to the Oscan, and has much in common both with the Greek and Latin.—With the exception of the disputed Etruscan, all the elements which entered into the Latin language seem to have been of the Thraco-Pelasgian stock. In Latium the territories of several tribes met, and according to universal tradition Rome was in its infancy the asylum of fugitives from all parts. The various constituents were developed into a compact and uniform texture, which was refined and enriched by the contact and influence of the Greek. Until the time of the poet Livius Andronicus (about 240 B. C.), there are few monuments of Latinity. In these the orthography is altogether unsettled, the specimens, when transcribed, have suffered in the process, and the language itself is fluctuating. The oldest of them is a hymn which the *fratres aruales*, a college of Roman priests, recited at their annual festival. It was dug up at Rome in 1778, and its composition has been assigned to the age of Romulus. It contains but few words that remained in the language. It was followed by the Salian hymn, which was unintelligible to Horace, the laws of the 12 tables (about 450 B. C.), the inscription on the Duilian column (260), and the epitaphs in the mausoleum of the Scipios. It is not certain that all of these have been preserved in the form in which they were originally composed. The *Senatus Consultum de Bacchanalibus* (185) is quite intelligible, and scarcely differs from classical Latin except in orthography. The principal grammatical difference presented by the older monuments is an ablative in *id, od, ed*, and an accusative which afterward became the regular ablative. The progress which the language made during this period was nearly free from foreign influences, and Cicero therefore called the age of the Scipios that of the true Latinity. In his time Hellenisms had greatly modified its peculiar Latin features. When the Romans conquered successively the south of Italy, Sicily, Macedonia, and Achaia, their language received a new form from intercourse with the subject Greek inhabitants, and from that time might more properly be called the Roman than the Latin speech. Greek terms and phrases were grafted upon the old Latin stock. In this Hellenistic form the language appears in the oldest literary works of the Romans, in Plautus, Terence, Lucretius, and even Catullus. The custom of employing Greek tutors for the children of the most distinguished families favored this tendency. What the language lost in originality it gained in refinement and polish, so that its golden age dates nearly from this transformation, extending according to some from the death of Sylla through the

reign of Augustus, and according to others from the time of Cicero to that of Tiberius. But it was rather as a literary language than as the popular speech that the Latin then attained to excellence. Cicero affirms that he knew but 5 or 6 Roman ladies who spoke it correctly. He was, however, a purist, and sometimes occupied himself for days in seeking a proper word or phrase. Quintilian complained that the Roman populace could not even utter an exclamation of joy without some barbarism, and said that it was nearly as difficult even in Rome for the young to become acquainted with classical Latin as with a foreign tongue. As a spoken language the Latin never was in universal use. As the Romans extended their dominion in Italy, they degraded but did not extirpate the local idioms. They did not, at first, attempt to establish between the different peoples which fell under their empire a unity of language to strengthen the bond of nationality. On the contrary, they even forbade to the vanquished tribes the common use of the speech of the conquerors. Subsequently, however, they authorized it, and finally enjoined it. The Latin therefore became in the provinces the official and perhaps the literary language, but in private relations and intercourse each people preserved its native dialect. Classical Latin is peculiar in having no distinct dialects. Yet, from the reproach of Patavinity which Quintilian brings against the style of Livy, who was born in Patavinum (Padua), it is supposed that the popular speech in the different provinces had peculiarities which sometimes crept into the literature. Though without dialectical differences, there was always a recognized distinction between the language of the people and that of the nobles. The former was the *lingua plebeia, vulgaris, rustica*, and is known to us only by a few phrases in the comic poets; the latter was the *lingua nobilis, classica, urbana*, and is that which is preserved in the monuments of Roman literature. There was also the *sermo provincialis*, which probably varied quite as much from the *lingua rustica* as that did from the cultivated speech of the capital. As the Romans were not a commercial people, it was only by the success of their arms that they extended their language. By war and military colonies they made it known throughout the gigantic area of the Roman empire. Its progress, however, was singularly impeded wherever it came in contact with Greek, for the reason that the latter was a superior instrument of communication. The language of the conquered for a time triumphed over that of the conquerors, so that in the age of Cicero Greek was understood by educated people in nearly every part of the empire, and Latin was confined almost exclusively to Italy. Soon after, in the larger part of Europe, northern Africa, and western Asia, Latin was cultivated in connection with the native languages, and became known either as a spoken or written tongue to the higher classes generally. Plutarch says

that in his time every people was familiar with Latin. Under the empire it was taught with greater purity and elegance in Gaul and Spain than in Italy. Julius Cæsar, says Aulus Gellius, advised young Roman authors to shun a new word as a dangerous rock. The protest against neologisms was repeated by many other purists. When the emperor Tiberius in an address to the senate Latinized the Greek word *μονοπωλιον*, Pomponius Marcellus dared to resist this exercise of the imperial authority in the republic of letters, and to declare to the emperor that he could give the right of Roman citizenship to men, but not to words. Yet Rome continued to borrow from the language of every people with which she came in contact, and the invasion of foreign terms was almost unlimited from the time of the Antonines, when strangers resorted from all parts of the Roman world to the capital. The degeneracy was the more rapid because after the Plinys there was no writer capable of moderating it. The Christian era has sometimes been accounted the date when the Latin became a fixed language. More properly, it was the period when its progress was arrested, and its decline began. Its decadence dates from the approximation of the literary to the vulgar Latin; and it was the Christian instruction in the *lingua plebeia et rustica* which chiefly contributed to this result, introducing into religious writings barbarisms which had till then only been found in the mouth of the people. This mode of alteration is noteworthy in the 2d century, and was completed after the 5th. Between these two eras occurred two events which consummated the destruction of the language: the transplanting of the seat of the empire to Constantinople, and the invasion of the barbarians. The Latin of the decline has the appropriate name of "low Latin." Its corruption consists not so much in changing the signification of words, as in creating new expressions, and introducing a throng of new words, first from the Greeks, and then from each of the barbarous nations. After the division of the empire, the Byzantine emperors endeavored to retain the Latin as one of the traditions of Rome, and enjoined its use in the codes and edicts; yet it was abandoned in favor of the Greek as soon as the eastern empire was obliged to renounce all pretensions to the sovereignty of the West. The successive incursions of the Goths, Vandals, and Lombards flooded it in the West with foreign words and forms. In this state it was preferred by the invaders to their own language. The foreign dynasties that ruled Italy were ambitious to heighten the resemblance of their courts to that of the Cæsars by cherishing the use of Latin. The *lingua Latina* became distinguished from the *lingua Romana*. The former was the classical Latin, now cultivated even by the learned only in writing; the latter was the old *lingua plebeia* transformed by invasions. The purest specimens of the ancient *lingua Romana* are supposed to exist in the mountains of Sardinia and in the country of the Grisons. It was

in the ages of low Latinity that Latin versification in rhyme was first attempted, of which there are many examples in ecclesiastical hymns, full of false quantities. That the Latin language did not share the destruction of the Roman empire was due to Christianity, which had adopted it, and, though it at first deteriorated it, afterward secured its perpetuity. It remained in Europe the ecclesiastical, political, and official language, long after it had ceased to be spoken except in cloisters. In the time of Gregory of Tours the preachers of France delivered their sermons in it; in the time of St. Bernard the as yet rude French was employed in delivering sermons, though they were written in Latin. Charlemagne ordered all judicial processes to be drawn up in Latin, and forbade officers to employ any other in their documents. Yet the debates of the parliaments and the metaphysical and theological discussions of the schools were insufficient to prevent its becoming a dead language. Moreover, the scholastic Latin was in large part a mélange of Gallic and Gothic terms furnished with Latin terminations; and the judicial verbal coinages were not less barbarous than those of the pedants of the schools. But the grotesqueness of the official Latin was its least defect. Francis I. was obliged to abolish it from the courts of justice because the meaning of the words employed could no longer be determined, and constantly gave rise to new lawsuits. At the revival of letters, Latin was the common speech of the savants of Europe, and was written by many of them with purity and ease. The Ciceronians of the court of Leo X. especially excelled in its elegant use, their name being derived from their principle that no word ought to be employed unless it was sanctioned by the authority of Cicero. The chief scholars of the day engaged in a controversy in support or contestation of this principle, the most important work produced on the subject being the *Ciceronianus* of Erasmus, in which he assailed the Ciceronian pedants with admirable satire and learning. It was answered in a tract by the elder Scaliger, a monument of skilful vituperation and literary bitterness. The reformation, by depriving the Latin of the exclusive privilege, which it had till then preserved, of being the official interpreter of the sacred texts and the common language of orthodoxy throughout Christendom, diminished its prestige and authority. Among the Protestants the vernacular languages were exalted above it. Yet the disfavor into which it fell in Germany, Holland, and England, as the interpreter of divine knowledge, did not prevent the most important works in profane science from being written in it. Lord Bacon first wrote his principal works in Latin, believing that it was destined to be the universal and common language of learned men. Even at the present time many of the books of German erudition are produced in Latin, and both in Germany and Holland many medical and legal works are written in it. In Poland, which

produced a remarkable modern Latin poet, Sarbievius (Sarbiewski), it was still spoken "by the bishop as well as the coachman" about a hundred years ago. In Hungary it was the language of the diet and county assemblies in the earlier part of this century, and remained so in part down to 1848.—No other language is more free and varied in its constructions. The terminations being sufficient to establish the grammatical relations of each word, without regard to the place which it occupies in the sentence, this place is determined only by the importance of the ideas and the order in which the speaker wishes them to strike the listener. Its bold inversions favor picturesqueness of description, and are admirably suited to rhetorical stateliness, though it is incapable of the flowing harmony of Greek periods. It excels in energy and conciseness, and its translation into modern languages without paraphrase is difficult. With its constructive flexibility there is a certain rigidity characteristic of the Latin expression, which is due perhaps to the fact that the Latin was long a political before it became a literary language, that is, before it was polished by the poets. It is suited for no other styles of composition so happily as for political orations and judicial disquisitions. The richness of its vocabulary in political terms is advantageous also to the historian. It is least adapted to philosophy, and Cicero complains that in his philosophical writings he was obliged to invent many expressions which the language could not furnish him. Less copious than the Greek, German, and English, less delicate than the Italian, less pompous than the Spanish, and less pliant than the French, the Latin is more compact and sinewy than either of these languages. It merits attention for the greatness of the people which spoke it, for the genius of its authors, and for the posthumous part which it has played in history and in the development of the human mind. Surviving the power of Rome, it remained a moral bond between the shattered portions of the fallen empire. It is only by an acquaintance with it that the principal nations of modern Europe can examine their own historical and scientific archives, their charters, and older didactic writings. From its long historical preëminence, as well as the literature which it contains and its almost perfect structure, it has always been an essential part of the course of study in all universities.—See Valla, *De Latina Lingua Elegantia* (Rome, 1471); Walch, *Historia Critica Lingua Latina* (Leipsic, 1761); Nahmacher, *Anleitung zur kritischen Kenntnis der Lateinischen Sprache* (1768); and Censorini, *De Vita et Morte Lingua Latina Paradoxa Philologica* (Ferrara, 1784). Treatises on the structure of the language were written, among the Romans, by M. Terentius Varro (best edition by K. O. Müller) and many others, whose works have been collectively edited by Lindemann (*Corpus Grammaticorum Latinorum Veterum*, 4 vols. 4to., Leipsic, 1831-'40). Among the

best grammars written after the revival of classic studies in Europe are: Sanctius (Fr. Sanchez), *Minerva, seu de Causis Lingua Latina* (Salamanca, 1587; last and best ed. by Bauer, 2 vols., Leipsic, 1793-1801); Ruddiman, *Grammatica Latina Institutiones* (2 vols., Edinburgh, 1725-'31; new ed. by Stallbaum, 2 vols., Leipsic, 1823); Bröder (Leipsic, 1787, and very often since; it is still a favorite elementary grammar of Germany); Grotendorf (Frankfort, 1814); Schneider, *Ausführliche Grammatik der Lateinischen Sprache* (8 vols., Berlin, 1819; not completed); Zumpt (11th ed., Berlin, 1860; translated into English by Kenrick; an English translation with many valuable additions published in New York, by C. Anthon); Otto Schulz (16th ed., Berlin, 1856); Kühner (4th ed., 1855); Madvig (8d ed., 1857). The English and American schools use to a large extent translations of the above mentioned German works. The best original American works have been published by Andrews and Stoddard; excellent elementary books by Bullions, and by McClintock and Crooks. The best work on Latin pronunciation is by Corssen, *Ueber Aussprache, Vocalismus und Betonung der Lateinischen Sprache* (2 vols., Leipsic, 1858-'9). The most complete information on the affinity between the Latin and kindred languages may be found in Bopp, *Vergleichende Grammatik*, and Pott, *Etymologische Forschungen*. As to Latin dictionaries, see DICTIONARY. To the eminent Latin lexicographers there mentioned must be added Klotz, whose Latin-German lexicon (2 vols., Brunswick, 1853-'7) in some points surpasses all its predecessors.—LITERATURE. The Roman or Latin literature was from the first an imitation of that of Greece. Its general characteristics are correctness and precision, without the buoyant vigor and various coloring of original genius. Even in its most cultivated period, the poets seem to have had little conception of originality except as the importation of a new style from Greece. Exquisite, therefore, as were their models, the highest excellence to which they themselves attained was a faultless grace and modulation without affluence of thought and feeling. The Romans were always chiefly devoted to war, politics, and legislation, and for 5 centuries they had no literature worthy of the name. For this term can be applied neither to the traditional song of the *fratres aruales*, a rude prayer for blessings on husbandry belonging to the era of the first kings; nor to the songs of the Salian priests, which were chanted with an affected delirium and accompanied by fantastic ceremonies, and were unintelligible long before they ceased to be sung in worship; nor to the lost triumphal songs and ballads mentioned by Livy and Cicero, and which Niebuhr conjectures may have formed a regular epic poem. No higher literary merit belongs to the *Indigitamenta*, attributed to Numa, and afterward commented on by Granius Flaccus, a repertory of the sacerdotal rites of Latium; nor to the Papirian law, a collection of edicts

by the first kings; nor to the republican law of the 12 tables; nor to the *Annales Pontificum*, a record of the chief events of every year by the high priest and four of his colleagues; nor to the *Libri Linteï*, the consular historical records. It was not till after the Romans had spread their conquests over Magna Græcia and Sicily, and had thus become intimately associated with Italian Greeks, that they began to give their attention to the cultivation of language and literature. Their first poet was the Greek Andronicus, taken prisoner at the capture of Tarentum, and called Livius Andronicus after he became a Roman citizen, who gave to the drama a somewhat regular plot. He produced Latin tragedies and comedies translated from and modelled after the Greek, and made a version of the *Odyssey* in the Saturnian metre. His plays were used as a text book in schools when Horace was a boy. Nævius (about 235 B. C.) followed his example in imitating the Greek drama, but exchanged mythological for political subjects, in which he so freely satirized the Roman aristocracy and the leading characters of state that he was successively imprisoned and banished. He also wrote a historical poem on the first Punic war. The art of poetical composition was greatly advanced by Ennius (239-169), a versatile genius, called by the Romans the father of their poetry. Possessing unusual learning and accomplishments, enjoying the society at Rome of the elder Cato and the Scipios, he wrote tragedies, satirical and didactic poems, and the *Annales*, an epic on Roman history, for which he first used the Latin hexameter. His works were marked by a stern and solemn grandeur, were freely imitated and borrowed from by Virgil, but lacked polish and ornament. Euripides was his model in tragedy, and he treated the mythological divinities with a marked disdain, which, as well as his translation of the sceptical Euhemerus, seems to prove that religious faith was already in decline. Though no Roman tragedy anterior to the Augustan age has been preserved, yet this branch of the drama reached the highest point which was destined to it at Rome in the hands of Pacuvius, nephew of Ennius, and of his junior contemporary Accius or Attius, both of whom imitated the Greek tragedies and rarely introduced events of Roman history. The former was both poet and painter, and received the epithet of *doctus* (learned); and there remains from the *Prometheus* of the latter our finest fragment of the Roman *tragœdia palliata* or high tragedy. The successor of Nævius in comedy was Plautus, whose plays have a Roman freshness and meaning about them, notwithstanding their Grecian garb, rugged versification, artificial negligence, and sometimes coarse jests. Aelius Stilo said that if the Muses spoke Latin they would employ the style of Plautus. With a patriotic fidelity, he treated beneath the veil of the new Greek comedy the complications, disorders, and emotions of Roman life. He was at once

author, actor, and manager, and while ridiculing the vices and follies of all classes, succeeded in avoiding the resentment of the patricians, and in pleasing the mob which thronged the *œdea*. His plays were highly and permanently admired, and St. Jerome is said to have consoled himself with them after passing his nights in tears and penitence. Under Terence (195-159), the friend of Scipio and Lælius, Latin comedy rose to its highest, though not to Attic excellence. No longer seeking to please only by broad ridicule, he aimed to delineate the pathetic as well as amusing features of ordinary life, employing sometimes a grave and sententious discourse, and content to raise a laugh only when his subject naturally suggested it. His comedies are all translated or adapted from Greek sources, chiefly from Menander; the scene of many of them is in Athens; and a gentleman, a slave, a parasite, a soldier, and a courtesan are the most frequent characters. The exquisite purity and elegance of his style have been universally applauded. He was a sort of prototype of Virgil, and reflects the taste of the best society of his time. Though inferior to Plautus in native buoyant vigor, he surpassed him in constructive talent, correctness, and depth of feeling. Nearly contemporary with him were Novius and Pomponius, authors of popular farces; Cæcilius Statius, of Gallic birth, whose plots were excellent, but whose Latinity is condemned by Cicero; and Afranius, whose plays, committed to the flames by Gregory I., were the best examples of the *comœdia togata*, which exhibited Roman instead of Greek characters and manners. Roman literature had till this time been chiefly in the hands of Greek slaves, whose genius on their arrival in Rome had secured their freedom and celebrity. At length Lucilius (148-103), a patrician, gave to it the advantage of his rank as well as genius. The Scipios and Lælii had amused themselves with it only as amateurs, thinking it would derogate from their dignity to make it their profession. The example of Lucilius introduced letters among the things permitted to patricians. He perfected the Roman satire, a style of poetry unknown to the Greeks, the verse, form, and personalities of which were wholly different from the satires of his predecessors. He imitated the liberties of the old Greek comedy by designating persons, but his vigor and pungency are peculiarly Roman.—Previous to Ennius had appeared the first rude annalists, Q. Fabius Pictor, from whose uncritical narrative the current accounts of the early history of Rome were in the main derived, and L. Cincius Alimentus, a curious investigator of ancient records and monuments. These were succeeded by the elder Cato (234-149), who wrote the *Origines* of Rome, a work which his position and erudition enabled him to make peculiarly valuable, and the loss of which is particularly regretted; Calpurnius Piso, whose annals extended probably from the earliest times to the second Punic war; and Cælius Antipater, who is commended for the eloquence and correct-

ness of his language, though he adopted the insipid style of the earlier annalists. The commentaries of Sylla on the events of his own time, valuable as their contents would be, are supposed to have had little literary merit. Poetry had thus far been regarded with a degree of suspicion, but eloquence flourished without opposition in consequence of the frequent occasions supplied for its exercise by the Roman polity and the revival of party contests during the third Punic war. It was a principal source of honors and fortune. Cicero mentions as the first orator worthy of the name the elder Cato, who preferred the rude unpolished vigor of his forefathers to the graceful diction and modulation of the Greek style. Preëminent among the numerous other authors previous to the Augustan age were Sulpicius, the two Gracchi, whose speeches are stated to have been learned and majestic, Catullus, Crassus, and Antonius. Some of these profited by the instructions of Greek rhetoricians, who were in vogue in Rome till in 161 B.C. they were banished from the city by a decree of the senate. Jurisprudence as well as eloquence was suited to the Roman genius, and was an influential accomplishment in opening the way to offices of state. Among those most distinguished for their legal acquirements were the elder Cato, the Scævolas, and Manilius. Philosophers had been included with rhetoricians in the decree of banishment, in consequence of the prestige which the academic Carneades, the stoic Diogenes, and the peripatetic Critolaus, ambassadors from Athens, had acquired by captivating the public with skilful and brilliant discussions. The decree was renewed only against the rhetoricians in 93. The stoical philosophy, the first famous disciples of which were Panætius and Rutilius Rufus, had many partisans. It was the Roman consolation amid the miscalculations of ambition, the reverses of fortune, and the persecutions of power.—The golden age of Latin literature is usually reckoned from the death of Sylla to that of Augustus (78 B. C. to A. D. 14). Greek studies had obtained an ascendancy over the original genius of Rome, so that it was usual for young men to complete their education at Athens, Rhodes, Apollonia, or Mitylene. The tour of Greece was an essential part of liberal culture. Greek philosophy became a matter of serious inquiry, the schools of the rhetoricians were received into favor, and Asinius Pollio and others created public libraries, adorned with statues, where men of letters met for conversation or to listen to poems and declamations. Large assemblies were thus sometimes collected. The love of art led in many cases to dishonorable plunder, for the governors of provinces unscrupulously appropriated the ornaments of temples, public edifices, and private dwellings. Verres in Sicily was only one of those who seized and removed to Italy statues, paintings, vases, mineral adornments, and other objects of artistic beauty. So many works of art were concealed in the dwellings of the wealthy, that Agrippa once

proposed a law recommending a public sale of all of them. The dealers in pictures and statues were persons of consequence at Rome, and artists flocked to that metropolis, both to get orders for their own productions, and to copy the renowned works of the Greek masters. Literature and the arts were thus admired by the wealthy, without producing much effect upon the majority of the Romans; the love of luxurious and sensual pleasure prevented their general diffusion and estimation. Poetry was, however, one of the principal means of securing the favor of the prominent men of the state, of Octavius himself and of Mæcenas. Repeated attempts had been made at Rome to produce an epic poem. Virgil (70–19 B. C.) perhaps first gave to this species of composition its highest finish as regards diction and metrical structure, though his admirable talent for decoration scarcely conceals his poverty of invention. He raised the language of poetry to the same degree of purity and elevation which Roman prose had already attained. His *Æneid*, which involves the primitive history of Rome, satisfies all the conditions of epical poetry, except that the advanced and enlightened period in which it was written gives to it a somewhat artificial character. His *Georgics* and *Eclogues*, which reveal his early rural life in Mantua, are more faultlessly finished, and some of the latter have been thought to possess an allegorical character. The *Pollio* especially has been a subject of frequent conjecture, exhibiting in its general scope and in particular passages a parallelism with the Hebrew Messianic predictions. Few writers have exerted so wide an influence upon æsthetic culture as Virgil. His works were received at first with the greatest favor, became forthwith and still remain text books in schools, were translated into Greek, were commented on by a crowd of grammarians, were the subject of innumerable epigrams, were formed into centos, and were used for purposes of divination. Bavius and Mævius, who assailed him, became proverbial names for envious dulness. He was a model to the Carolingian poets, and was chosen by Dante to be his guide through the inferno. A life-long friend of Virgil was Horace (65–8 B.C.), who introduced new lyric metres in his odes, first employed the iambics of Archilochus in his epodes, and gave to Roman satire its greatest elegance. His odes and epodes are in Greek metres, but have the freshness of original conception, and are models of skill and taste. His satires, epistles, and metrical letters on the art of poetry may be classed together as familiar moral and poetical discourses. With an ease and graceful negligence which disprove any assumption of authority, they are scarcely surpassed by any work of pagan antiquity for good sense, practical wisdom, and happy philosophical apophthegms. No classical author is more familiarly read or more frequently quoted from. The distinguishing principle of the Horatian philosophy is the supreme excellence of happiness, but it is refined from the selfish-

ness which often characterized the Epicurean system. Ovid (43 B. C. to A. D. 17), the son of a Roman knight, a brilliant, sportive wit, of all ancient writers approaches the nearest in form to the modern romantic school as represented by Chaucer, Ariosto, and Spenser. With the greatest facility in versification, he sung the mythological metamorphoses, several of his stories being exuberant with creative force; overstepped the bounds of modesty in his *Amores* and *Ars Amandi*; lamented his own misfortunes in his *Tristia* and Pontic elegies; and chronicled the glories of Rome in his *Fasti*. In imaginative power he is scarcely surpassed by any other Latin poet. Less generally and highly esteemed are Lucretius (95-52 B. C.), the sublimest of didactic poets, whose *De Natura Rerum* served at once to illustrate the atomic theory of the world and the Epicurean system of morals, and to polish and enrich the Latin language; Catullus (born 87 B. C.), who introduced lyric poetry into the literature of Rome, and whose elegies and epigrams are admirable for their simplicity, beauty, sensibility, and unaffected imagery; Tibullus (died 18 B. C.), who gave to the elegy its highest degree of excellence, celebrating after a life of passion the delights of domestic enjoyment, of friendship, and of rural quiet; and his successor Propertius (born about 51 B. C.), an amatory poet, who is also learned, awkward, and obscure. The Atellan play and the comedy had now given place to the mime, or monodramatic farce, in which characters of common life were represented with the help of gesticulation and with low jests for the entertainment of the Roman populace. It was invented by Mattius, and acquired its greatest celebrity from Laberius and Publius Syrus, the latter of whom interwove moral sentiments expressed with peculiar felicity; but it never reached the standard of an elevated class of poetry. Other poetic attempts were made by Varro, the most learned Roman of his age, whose lost works would perhaps prove him to have been a mimographer; by Cicero, Hortensius, and even Julius Cæsar; by Varius, whose *Thyestes* Quintilian pronounced equal to any of the Greek tragedies; by Valgius Rufus, and by Helvius Cinna, by interpreting whose obscurely learned poem entitled *Smyrna* on the birth of Adonis the grammarian Crassitius distinguished himself; by Cassius of Parma, Furius Bibaculus, and Mæcenas, who exercised a more salutary influence as a patron than as an author.—The greatest master of Latin prose is Cicero (106-43 B. C.), who, after surpassing the florid Hortensius as an orator, applied himself to the whole range of the art and philosophy of the Greeks. Eloquence flourished amid the convulsions of the latter years of the republic, as it had done amid the distractions of the declining Athenian state. But Cicero is to be contrasted rather than compared with Demosthenes. Both seem to have triumphed by the divergence of their intellectual character from the genius of their audiences. Amid an æsthetic people,

who delighted in the graces of ornament, Demosthenes is remarkable for simplicity, precision, and vehemence; among the staid and practical Romans, Cicero displays an almost Asiatic eloquence, abounds in luxuriant and figurative speech, is a master at once of the impassioned, the pathetic, the sublime, the grave, and the simple style, has the art of adapting to every subject the appropriate form and the fitting hue of expression; and whether his orations be deliberative, judicial, or descriptive, delivered from the rostrum, in the forum, or in the senate, they exhibit a *copia dicendi* for which he has sometimes been called the greatest master of composition that the world has ever seen. The splendor of his invectives against Catiline, the taste and beauty of his pleas for the Manilian law, for the poet Archias, for Marcellus, and for Ligurius, the remarkable combination of historical references, philosophical sentiments, polite raillery, and animated descriptions which characterize his judicial efforts in behalf of Cælius and Muræna, as well as the best portions of many of his speeches, reveal the ingenuity and versatility of the greatest of Roman orators. Poetry also, philosophy, history, and the epistolary style, he touched only to adorn. Ciceronianism in modern times has designated every perfection of Latin style, whether lofty or familiar, philosophical or forensic, plausible, pathetic, or brilliant. He wrought the scanty and unmusical Latin language into exuberant richness and harmony of expression. His youthful poetry has usually been disparaged; his letters are admitted to be the most perfect specimens which the literature of either Greece or Rome can produce, those to Atticus being friendly, plain, and artless, and those *ad familiares* being elaborated with all the care of a rhetorician; and his philosophical writings first introduced the speculations of the New Academy to the Roman mind, and popularized the practical results of the best Greek systems. Next to him as orators were the accomplished Hortensius, the obscure Cælius Rufus, the cold, cautious, and accurate Licinius Calvus, and especially Julius Cæsar (100-44 B. C.), whom his contemporaries believed as capable of rivalling Cicero in eloquence as of conquering Pompey by arms. Pollio, the wealthy and authoritative patron of literature, was censured for his antiquated simplicity and extolled for his judicious arrangement as an orator, was formidable as a critic, and was the author of unpublished tragedies. Corvinus, one of the subtlest of the Romans, a political trimmer, was noted for his charming, polished, and ineffective oratorical diction. More formidable was the acrimonious, calumnious, and sentimental Cassius Severus. The passion for eloquence was finally driven by the fall of the republic to seek its gratification in the schools, and the efforts of orators gave place to the declamatory exercises of rhetoricians. Fictitious speeches on imaginary subjects succeeded the real defeats and triumphs of eloquence. Cæsar was Cicero's competitor

in improving and refining the language, to which he imparted a peculiar ease and grace. His "Commentaries on the Gallic War" is but little inferior to Herodotus in charm of diction. The historian next to him in respect of style is Cornelius Nepos, whose life of Atticus, a contemporary and friend, makes us regret that we have few other biographies of distinguished Romans, as illustrations of the state of society and opinion at different periods. Sallust (86-34 B. C.) approximated to his model Thucydides in richness and vigor of thought and terseness of expression, though he marred his clear conceptions by an affectation of antiquated forms, and paraded moral apophthegms which he practically contradicted in his own life. His accounts of the Catilinarian conspiracy and of the Jugurthine war were written and elaborated as professed and ambitious works of literature, have a philosophical cast, are always profound though often partisan in their judgments, are never negligent, and are generally admirable, though often archaic in style. He slighted Cicero and extols Cæsar. The history of the civil war between Marius and Sulla by Sisenna, the best of the ante-Sallustian historians, is unfortunately lost, and there is no contemporary account of that eventful period. Cicero highly extols Lucceius, of whom almost nothing is known. Tróngus Pompeius, by epical and digressive narratives, enlarged a history of the Macedonian empire into a general history of contemporaneous nations. Livy (59 B. C. to A. D. 17), preëminently the general historian of Rome, excels in pictorial effect, surpassing even the Greeks in the liveliness and richness of his coloring and the animation and spirit of his delineations. With picturesque rather than critical instincts, and with patriotic enthusiasm rather than philosophical candor, he made the comparatively novel attempt of embracing several centuries in his history, and gave to all his pictures the style and splendor of the Augustan age, being apparently unconscious of the distinct genius and manners of the past. He seems to have consulted only for the purposes of literary style and effect the chronicles and other narratives which treated of the successive periods of Roman history. He is the author of an engaging story, redolent of the highest and typical Roman genius, and in a style which commands the admiration of classical scholars; but circumstantial truth must be sought elsewhere. The astronomer Figulus, the architect Vitruvius, and the physicians Antonius Musa and Cornelius Celsus may be mentioned at the close of the golden era of Latin literature.—In the age of the silver Latinity, from the death of Augustus to the accession of Hadrian (A. D. 14-117), every thing was changed. Liberty disappeared under Augustus, and literature subsequently declined. Under the jealous Tiberius, the insane Caligula, the foolish Claudius, and the sanguinary Nero, it was dangerous to employ talent to any nobler purpose than that of obsequious flattery. Eloquence was rhetorically cultivated by Julius Florus in the time of Augustus

and Tiberius, by Domitius from the age of Tiberius to that of Nero, and by Julius Africanus in the reign of Nero. A stately and studied bombast succeeded the solemn dignity of the former age. The rhetorical mania was universal. An affectation of wit, of facetious originality, was necessary in order to acquire the favor of the great. Every subject was rendered comic. Prose and poetry were confounded, and new grotesque forms of expression were invented. The confusion of styles, which Lessing regards as an indubitable sign of degeneracy, was at its height. The language was at the same time enriched and barbarized. The genius of the people could not conquer and subordinate the foreign elements. No writer contributed more to pervert the national taste than Seneca (died in 65), who with prodigious talents was ambitious of shining by the brilliancy of his wit, the structure of his antitheses, and the general terseness and point of his style. This philosopher left 9 tragedies, on Greek subjects, accommodated to the stoic philosophy, and marred in the best scenes by an unskillful intermixture of moral maxims. Notwithstanding their turgidity, they are admired both for fine poetry and sound philosophy. By their undramatic character, they demonstrate that the legitimate drama at Rome was nearly extinct. His various prose writings abound in moral sentences and maxims, in practically good and true sentiments, revealing the pride of a stoic in a style full of literary affectation. Plays were produced only for purposes of adulation. Pomponius Secundus, whom Quintilian considered the first of Latin tragedians, the comic Virginius, and the tragic Maternus, vainly attempted to raise the dramatic art. The epic degenerated from poetry to history, and declamatory descriptions were substituted for marvellous scenes and heroism. The *Pharsalia* of Lucan (A. D. 39-65), the greatest epical attempt, is rather declamatory than poetical, and exemplifies the rhetorical tendency of the age. With abounding defects, its luxuriant diction, delineations of character, and brilliant speeches are its best features. The example of Valerius Flaccus introduced an affectation of learned display. He wrote the *Argonautics*, which has been compared with the *Æneid*, but is hardly more than a mosaic of fragments from Apollonius, Euripides, and Ovid, recommended neither by originality, brilliancy, nor melody. Silius Italicus was also an imitator of Virgil, a virtuoso and man of taste, and exhibits care, but no genius, in his *Punica*. The *Thebais* of Statius is the culmination of rhetorical bombast and erudite display. Manilius wrote the *Astronomica*, of little poetical merit, but interesting with reference to the history of astronomy. Greater successes were attained in satire, which was a protest against prevailing corruption, against the tyranny of government and the degradation of taste and philosophy. Persius (A. D. 34-62) exhibits all the harshness of stoicism, is elaborately concise and terse, and

so cautious as well as obscure that he presents the phenomenon of a satirist of the Neronian period who was allowed to die in peace. Juvenal (about A. D. 100), who disputes with Horace the palm of Latin satire, illustrates the humiliation of a patriot and moralist mindful of ancestral glories in the midst of overwhelming degeneracy. Each of his satires is a finished rhetorical essay as well as a stern and almost misanthropic invective. His verse is vigorous and sonorous, and his arguments, illustrations, and figures are marshalled with care and skill. The contrast between his constant gloom and austerity and the warm-hearted gayety of Horace may be partly explained by the transition from a careless to a corrupt age. In his 7th satire he reviews the state of literature at Rome, and represents poets of reputation and popularity as applying for the most menial offices, and the Muse herself in the condition of a mendicant. There remain only a few verses from the satirists Turnus, Gætulicus, and Volcatius Segiditus. Petronius mingled prose and verse in a shameless exposition of the vices of Claudius, Nero, and other lofty personages. Martial (born 48, died about 104) first gave to the epigram its present meaning as a short poem in which all the thoughts and expressions converge to a striking and unexpected conclusion. His 12 books of epigrams on miscellaneous subjects exhibit a singular flow of wit and fertility of imagination, and are a copious source of information concerning social habits and manners. The names of contemporary poets whom he mentions would make a long catalogue. In prose, Paterculus (born about 19 B. C.) offers the finest example of the silver Latinity. His outline of Roman history has a philosophical and impartial tone, though it is conceived in opposition to republicanism, and exhibits the courtliness which marked the favored writers of imperial Rome. In respect to style he would rank among the best authors but for occasional archaisms, and for an elaboration of elegance and paragraphical structure which often seems artificial. It is perhaps fortunate for his reputation, as compared with that of Livy, that only the latter part of his work has been preserved, which is the reverse of Livy's fate, and that therefore he cannot be shown to have plagiarized from the early chronicles. His familiarity with names, customs, laws, and families makes his authority superior to that of Appian and Dion Cassius. The greatest of Roman historians is Tacitus, who unites intellectual strength to the most careful observation, whose indignation gives him eloquence, and whose experience of men and affairs furnishes the most sombre colors and sagacious maxims. He wrote the narrative of his time with the old Roman spirit, and with true republican dignity, showing a skill in graphic representation of which only Thucydides and Sallust had given examples. Practically acquainted with civil and military affairs, enjoying ample leisure and the highest public honors, writing under the reign of Trajan, who tolerated the truth, and in advanced life after a

distinguished public career, he had every external advantage for the office of a historian. His psychological insight and high moral stoicism appear in the acuteness with which he explains the hidden motives of imperial cunning, patrician servility, and general immorality. He wrote a life of his father-in-law Agricola, a treatise on the customs of the Germans, *Historia* from 69 to 71, and *Annales* from the death of Augustus (14) to the death of Nero (68). Not to be compared with him are Suetonius, the arid biographer of the emperors, the florid panegyrist Florus, Valerius Maximus, a collector of anecdotes and a pedant of fine sentences and sentiments, and Quintus Curtius, the Roman historian of Alexander the Great, who is presumed to have belonged to this period. Eloquence had given place to the art of declamation, and among the scholastic rhetoricians Seneca, the father of Seneca the philosopher, held eminent rank. His works contain examples of the puerile discussions and declamations which were then the exercises in schools. Quintilian (born A. D. 40), a professor of oratory under Vespasian, in his *Institutiones Oratoriae*, aimed to restore eloquence to Ciceronian dignity, but no rules of criticism could revive it in the absence of political freedom. He magnifies his profession by maintaining that none but a good man can be a great orator, discusses the requisite training, treats fully the arts of composition and delivery, reviews the Greek and Roman literature, gives proof of extensive reading, and employs a highly polished and graceful style, but throughout his work shows more of good taste than of comprehensive or commanding intellect. The panegyric on Trajan by the younger Pliny, a pupil of Quintilian, is a favorable specimen of the ingenious and striking rhetorical compositions of his age. His letters are of much value for the light which they throw on the period in which they were written, though many of them are ridiculously elegant and studied. The reputation which he enjoyed among his contemporaries is a demonstration of the decline of taste. The elder Pliny (23-79) was a splendid exception to the literary spirit of his age, displaying zeal for real knowledge and a love for the study of nature. Works of physical science had become entirely neglected before him, and no one followed in his steps. Posterity were content to read his writings without improving them, and his authority continued to be reverentially quoted on all matters of natural history until his unavoidable errors had become manifest absurdities. Columella wrote on agriculture, and Pomponius Mela on geography.—The brazen age (from the accession of Hadrian to the fall of the western empire, 117-476) exhibits not only the decline of taste but the corruption of language. As the intercourse of the Romans and barbarians extended, great multitudes of the latter were introduced and established in the heart of the provinces. Literature became cosmopolitan, and was cultivated not only in Rome but in Byzantium, Alexandria, Milan, and the principal

cities of Gaul. Provincial schools, instituted in Carthage, Burdigala (Bordeaux), Lugdunum (Lyons), Augusta Trevirorum (Trevés), and other cities, no longer deemed it necessary to follow the taste of Rome. Under the Antonines, especially, the language became overlaid with exotic words, phrases, and constructions. The troubled transition from expiring paganism to the new organization of Christianity, the perpetual menace of change by foreign populations and new ideas, the substitution of rhetorical declamation for eloquence and of the study of grammar for the appreciation of literary beauties, all contributed to the decline of taste. It was the custom of authors to read aloud their compositions to a large audience of their friends and acquaintance, poetry, history, and oratory being thus recited. An impassioned recitation forbade the quiet exercise of judgment; a luxuriant and formal style concealed the decay of ideas; knowledge ceased to be an object of interest; and only the Roman code and the Christian religion were aggressive forces in the 4th and 5th centuries. Rome was unable to offer with these an enlarged knowledge of nature; no branch of learning was cultivated; poetry, philosophy, oratory, and morality were palpably in decline; and speculative stoicism presided over an era of scepticism. The providence of God, the gratitude due to him for all his gifts, the duty of service to him and of kindness to our neighbors, the excellence of abstaining from revenge and uncharitableness, a calm acquiescence amid sickness, poverty, loss of friends, slavery, or untimely death, and a maintenance of happiness without regard to circumstances, were the lessons taught by the highest pagan discipline. Tertullian especially distinguished himself by a barbarous diction, being exclusively engrossed with his subject matter, and apparently preferring a corrupt use of language as a contrast to the admirable rhetoric formerly employed in the service of paganism. As the literature declined, the number of grammarians increased, and classical Latin had already become almost a dead language, to be learned only from the ancient models. By the study of these models, a few, as Lactantius and the poet Claudian, raised themselves above their contemporaries. The *Pervigilium Veneris*, a hymn in honor of Venus, attributed both to Florus the historian and to Vitis Chelidon, the wife of another Florus, is an imitation of Columella, Manilius, and Virgil, but neither its date nor author has been certainly determined by critics. With this may be classed the elegant poem of *Ætina* by Lucilius Junior, and the graceful distichs attributed to Dionysius Cato. Serenus Sammonianus, a physician and biblioplist, left an obscure collection of versified receipts for maladies. The Carthaginian Nemesianus wrote poems on hunting, fishing, and the nautical art, of which only a fragment of the *Cynogetica* has been preserved, which in respect of purity and neatness of expression justifies the admiration of his contemporaries.

Calpurnius, supposed to have been the secretary of the emperor Carus, wrote correct and spiritless eclogues and bucolics, in imitation of Virgil. Ausonius, a grammarian, rhetorician, poet, and probably a Christian, wrote idyls and metrical epigrams marked by wit and learning rather than taste. Festus Avienus was a geographical and didactic poet, not to be confounded with the fabulist Avianus. Claudian, who revived the spark of ancient poetry, wrote epical sketches, their brevity and elaborate polish forbidding the title of epics. Aurelius Prudentius, styled by Bentley "the Horace and Virgil of the Christians," the greatest of the primitive Christian poets, wrote a great variety of hymns and lyrical and heroic pieces, portions of which, and especially centos from them, are still employed in the services of the Catholic church. Commodianus wrote an apology for Christianity in hexameters, worthless as poetry. The hymns of St. Ambrose are preëminent among ecclesiastical Latin poems for their austere simplicity and sublimity. To St. Hilary of Poitiers are attributed many hymns, some of which are certainly of a later date. St. Paulinus, Sedulius, Dracontius, Arator, and St. Gregory the Great complete the list of the more important early writers of ecclesiastical verse. Mediæval or Neo-Latin Christian poets were Fortunatus, the Venerable Bede, St. Fulbert, Hildebert of Tours, Bernard de Morlaix, Adam of St. Victor, and the author of *Dies Ira*, beside others who are remembered for single hymns or poems. The mediæval is essentially different from the classical Latin verse, having accent and rhyme instead of metre, while new words and forms were introduced, and old words assumed new meanings. The decline of prose appears in the *Historia Augusta*, a collection of imperial biographies from Hadrian to Diocletian (117-284), inferior in merit to the memoirs of Suetonius. The summaries of Aurelius Victor, Eutropius, and Sextus Rufus succeeded. Almost the last noteworthy Roman history was that of Ammianus Marcellinus, extending to A.D. 378. Jornandes, the historian of the Goths, and Sulpicius Severus, who wrote a sacred history in a style which gained him the appellation of the Christian Sallust, complete the list. The grammarian Cornelius Fronto, and the pompous rhetoricians Apuleius and Ennodius, are the best of their class. The letters of Symmachus are elaborate studies after classical originals, and afford much information on political matters and on the relations of Christianity to paganism. The "Golden Ass" of Apuleius is almost the only example in Latin literature of any thing like a prose novel or romance. The activity of pagan thought diminished with the progress of the Christian religion. Boethius (born about 470), the last of pagan literary writers, wrote in prison his admired work on the consolation of philosophy. The church fathers, as Tertullian, Minucius Felix, St. Cyprian, Arnobius, Lactantius, St. Hilary, St. Ambrose, and

St. Jerome, are generally more remarkable for theological vigor than literary grace. Maternus wrote on mathematics, Frontinus and Vegetius on strategics, Palladius on rural economy, Solinus, Publius Victor, and Vibius Sequester on geography and cosmography. The perpetual edict of Hadrian was drawn up by Salvius Julianus; the jurist Ulpian flourished under Septimius Severus; and the Theodosian code collected the civil, public, and ecclesiastical law. The work of codification was completed under Justinian by Tribonian, Theophilus, and Dorotheus, and his 4 legislative works, the *Institutiones*, *Digesta* or *Pandectæ*, *Codex*, and *Novellæ*, under the general name of *Corpus Juris Civilis*, form the Roman law as received in Europe. The literature had ceased, through the decline of genius and the corruption of taste; but compilers and grammarians, as Sulpicius Apollinarius, Aulus Gellius, author of the *Noctes Atticæ*, Nonius Marcellus, Festus Donatus, Macrobius, Servius, Priscianus, Cæsariensis, and Isidore of Seville, continued to cherish its traditions by criticisms, analyses, and inferior reproductions.—See Dunlop, "History of Roman Literature from the Earliest Period to the Augustan Age" (3 vols., London, 1823-'8); Bähr, *Geschichte der Römischen Literatur* (3d ed., 2 vols., 1844-'5); and Bernhardt, *Grundriss der Römischen Literatur* (2d ed., 1850).

LATINUS, a king of Latium, and father of Lavinia, whom he gave in marriage to Æneas. (See **ÆNEAS**.)

LATITUDE. The latitude of a place on the surface of the earth is its distance north or south from the equator, and is equal to the angle which a plumb line at that place makes with the plane of the earth's equator; or the angle which the horizon plane of the place makes with the earth's axis. Hence it may be measured by measuring the altitude of the pole of the heavens above the horizon, or by measuring the distance on the meridian of the equator from the zenith. (See **DEGREE**.)—The latitude of a heavenly body is its distance from the ecliptic, and is measured by the arc of a great circle perpendicular to the latter, intercepted between the ecliptic and the body. The heliocentric latitude of a planet is its distance from the ecliptic, such as it would appear from the sun.

LATITUDINARIANS, the name given specially to certain theologians of the Anglican church, in the latter part of the 17th century, who were generally low churchmen of Arminian principles, aiming to give a philosophical tone to theological discussions, and admitting a greater latitude of doctrine than was allowed either by the Presbyterians and Independents or by the stricter Episcopalians. Most of them were connected with the university of Cambridge. Among the more distinguished of them were Henry More, Cudworth, Chillingworth, Hales, Wilkins, Gale, and Tillotson.—See the "Principles and Practices of Certain Modern Divines of the Church of England, abusively called Latitudinarians, truly Represented and

Defended by Way of Dialogue," by Fowler, bishop of Gloucester (London, 1670).

LATIUM, one of the principal divisions of ancient Italy. The name is variously derived from Latinus, who more probably owed his to that of the region; from *latere*, to be hidden; from *latus*, broad, &c.; but hardly any of the derivations are satisfactory. The boundaries of Latium varied in different periods of Roman history. In the earliest times the name designated a small tract of land S. of the Tiber, inhabited by the Latins; it subsequently extended as far S. as the promontory of Circæii and Anxur or Terracina; and in its latest and widest acceptation it included the lower valley of the Liris, and embraced all the land between the Tiber, the territories of the Sabines and Samnites, Campania, and the Tyrrhenian sea. Pliny calls the southernmost part *Latium Adjectum*, in contradistinction to *Latium Antiquum*. The greater part of the whole territory is an undulating plain, gradually rising from the sea shore to the Apennines, with an isolated range of mountains, Mt. Albanus, of which Mt. Algidus and the Tusculan hills are branches. A part of the coast land between Antium and Terracina was gradually converted into the Pontine marshes by the waters of various streams which found no outlet; all other parts of Latium were renowned for fertility. In the vicinity of Campania some of the choicest wines of Italy were produced. Among the towns of Latium conspicuous in the history of Rome we find, beside the eternal city itself, Alba Longa, Lavinium, Antium, Corioli, Ardea, and Tusculum. The most ancient inhabitants of Latium, the Siculi, were expelled by a people of Pelasgic descent, who there became known as Latins, or *Prisci Latini*, in contradistinction to the later Latin subjects of Rome. They formed a league of 80 cities, of which Alba was subsequently the head. Alba succumbed to Rome, one of its colonies, under Tullus Hostilius, and other Latin towns soon after. Rome entered the league under its 6th king, and became its head under the next and last. On the fall of the Tarquins the Latins regained their independence, and struggled long against the republic to maintain it; but it was finally overthrown by the great victory of the Romans near Mt. Vesuvius (340 B. C.). Several of their towns received the Roman franchise, and others were converted into allied towns, under the general name of *Nomen Latinum*. During their independence, the Latin towns, mostly built on the top of steep and fortified hills, were governed by dictators elected annually, senates, and popular assemblies. Their common meetings, in which federal questions were discussed, were held in a sacred grove at the foot of Mt. Albanus, on the top of which stood a temple of Jupiter Latiaris. An ancient festival celebrated there in honor of that divinity was adopted by the Romans, retaining its name of *Feria Latina*.

LATONA (Gr. Ἀρτώ), in Grecian mythology, a daughter of the Titan Cœnus and Phœbe, and

mother of Apollo and Diana by Jupiter, to whom she was married before he wedded Juno. It is only by later writers that she is described not as the wife but concubine of Jupiter. According to the fable, Latona, when pregnant, and persecuted by the jealous Juno, could find no rest, the earth being afraid to receive her, while she was constantly pursued by the serpent Pytho. Finally she came to the floating isle of Delos, which gave her refuge, or which, as some accounts state, was created for her after all other parts of the earth had been cursed should they afford her rest. Symbolically Latona seems to have signified the primitive darkness whence sprang Apollo, or the light. She was only worshipped in connection with her children.

LATOUR D'AUVERGNE, THÉOPHILE MALO CORRET DE, a French officer, born in Carhaix, Brittany, Nov. 23, 1748, fell in action at Oberhausen, near Neuburg in Bavaria, June 27, 1800. He was educated at the college of Quimper and at the military school. In 1767 he entered the army, and in 1781 served under the duke de Crillon at the siege of Port Mahon. After the French revolution broke out he distinguished himself in Chambéry and in the Pyrénées. He refused the promotion frequently offered him, saying that he was only fit to command a company of grenadiers. All the grenadier companies being however united in one, Latour d'Anvergne found himself, while still retaining the simple title of captain, at the head of 8,000 men, who as a part of the vanguard of the army soon became the terror of the enemy under the name of "the infernal column." His exploits were numerous and desperate, and he had a high character in the council of war as well as on the battle field. After the peace of Basel he made a sea voyage for his health, but was taken prisoner by an English privateer. In 1797 he returned through exchange of prisoners to France. He reentered the army as substitute for the son of a friend, fought under Masséna in Switzerland, rejoined his own company in Germany in 1800, and fell by the lance of a Hulan, exclaiming that it was in this manner he wished to die. Many rewards of bravery were offered him, which he declined. Napoleon at one time, by order of the directory, sent him a sword with an inscription declaring him to be the first grenadier of France, which he refused to accept, saying: "Among us soldiers there is neither first nor last." A monument was erected on the spot where he fell, and his heart, embalmed and kept in a silver vase, was carried by his company. His name continued until 1814 to be called at roll, when the oldest sergeant answered: "Died on the field of honor." He was the author of a work entitled *Nouvelles recherches sur la langue, l'origine et les antiquités des Bretons* (12mo., Bayonne, 1792; 3d ed., 8vo., Hamburg, 1802).

LATREILLE, PIERRE ANDRÉ, a French naturalist, born in Brives, Nov. 29, 1762, died in Paris, Feb. 6, 1833. He belonged to a poor

though distinguished family, and owed his education to friends, one of whom, a merchant, by lending him works on natural history, awoke in him a love for that study. In 1778 the baron d'Espagnac, governor of the Hôtel des Invalides, invited him to Paris and placed him in the college of Cardinal Lemoine. He studied theology, and was ordained priest in 1786, after which he retired to Brives, where he passed his leisure in the study of entomology. In 1788 he returned to Paris, where he became intimate with Fabricius, Olivier, and Bosc, and brought to the notice of De Lamarck several rare and curious plants. He published at this time a treatise on the *mutillides* (a family of hymenopterous insects) of France, and contributed articles on the subject of entomology to the *Encyclopédie méthodique*. The revolution drove him from Paris, but he was arrested at Brives, whither he had fled, and taken to Bordeaux, where he was sentenced to transportation. Becoming acquainted with the naturalists Bory de St. Vincent and Dargelas through his discovery of a new insect, they obtained for him his freedom. He resumed his studies with ardor, and in 1796 published at Brives his celebrated *Précis des caractères génériques des insectes, disposés dans un ordre naturel*. He was again arrested in 1797 as an *émigré*, but was once more saved by influential friends. In 1798 he was placed in charge of the entomological department of the museum of natural history. In 1814 he was elected a member of the academy of sciences. When De Lamarck lost his sight, Latreille was appointed assistant professor, and continued his lectures on the invertebrate animals until the death of De Lamarck in 1829, when he succeeded to the chair. He is said to have remarked on attaining this post that bread had been given him after losing his teeth. Latreille was unquestionably the first man of his time in his particular department of science. His writings are very voluminous.

LATUDE, HENRI MASERS DE, a French prisoner of state, born in the château of Craisich, near Montagnac, March 23, 1725, died in Paris, Jan. 1, 1805. He entered the army while young, but in 1748 went to Paris to study mathematics. Being ambitious, he had recourse to a trick to make himself known at court, and obtaining an interview with Mme. de Pompadour, informed her that he had seen a box placed for her in the post, probably for no good purpose. The box came, filled with a harmless powder; and ascertaining that Latude himself had sent it, the marchioness had him cast into the Bastille, May 1, 1749, whence he was transferred to the prison of Vincennes. On June 25, 1750, he escaped by stratagem, but 6 days afterward voluntarily gave himself up to the king, who sent him again to the Bastille. The marchioness, piqued that he had not applied to her for mercy, procured his confinement for 18 months in a dungeon, after which he was placed in an ordinary room of the prison. From this place he made a remarkable escape, Feb. 25, 1756, and fled to

Amsterdam, where he was again arrested on June 1, and reconducted to the Bastille. He was now confined in a dungeon, chained hand and foot, and obliged to sleep upon straw without any covering. While in this condition he submitted to the government some projects of public utility, one of which was adopted, but procured him no better treatment; but in 1762, his dungeon becoming untenable, he was removed to an upper room. In 1764 Mme. de Pompadour died, and Latude, having learned the fact, petitioned Sartine, lieutenant general of police, for his liberty. Sartine demanded the name of the person who had given him the information, and as Latude refused to betray the secret he was doubly ironed and kept on bread and water. Having been removed to Vincennes he again escaped, was again arrested, and finally, after the death of Louis XV., was liberated through the influence of Malesherbes, June 5, 1777. But he was soon after rearrested and thrown into a dungeon at the Bicêtre, where he remained for many years. A noble-hearted woman, Mme. Legros of Paris, having by a remarkable accident learned his history, determined to obtain his liberty. She was unwearied in her efforts, and at last, having interested the cardinal de Rohan and Mme. Necker in the subject, obtained the release of the prisoner, March 18, 1784, with the allowance of a small pension, and took him into her house. The French academy decreed a prize to Mme. Legros, in the same year, for her efforts in behalf of the sufferer. The day after the taking of the Bastille, Latude reclaimed his papers and other memorials of his first imprisonment. The whole were publicly exhibited with his portrait in the court of the Louvre, and were instrumental in exciting the populace. In 1793 he brought suit for damages against the heirs of Mme. de Pompadour, and was awarded the sum of 60,000 livres, of which he received only 10,000. He published a *Mémoire de M. de Latude, ingénieur* (8vo., Paris, 1784), and several essays.

LAUD, WILLIAM, an English prelate, archbishop of Canterbury, born in Reading, Berkshire, Oct. 7, 1573, executed on Tower hill, London, Jan. 10, 1645. The son of a wealthy clothier, he was educated in the grammar school of his native town, till in his 16th year he entered St. John's college, Oxford, where he obtained a scholarship in 1590 and a fellowship in 1598. Heylin relates that even at the university he was so "popishly inclined" that it was almost a heresy for any one to be seen in his company, and a misprision of heresy to give him a civil salutation in the streets. He received clerical orders in 1601, became chaplain to Charles Lord Mountjoy, earl of Devonshire, in 1605, and, though holding marriage to be an indissoluble sacrament, performed the rites of matrimony between that nobleman and Lady Rich, whose first husband was still living. For this act, which proved a barrier to his rapid preferment, he read a penitential service every year. He was appointed chaplain to Bishop

Neile in 1608, and had held several minor livings when in 1611 he was elected president of St. John's college, Oxford, and became one of the royal chaplains. In 1616 he was presented to the deanery of Gloucester, accompanied King James to Scotland in 1617, became prebendary of Westminster in 1620, and was raised to the see of St. David's in 1621, when he resigned his presidentship. In 1622 took place his famous conference with the Jesuit Fisher, in presence of the duke of Buckingham, in which more than at any other time he gave proof of intellectual power. The result was that, according to his diary, he became "C." to Buckingham. The initial is usually believed to stand for confessor. Under the patronage of this nobleman his rise was rapid. In 1624 he was made a member of the court of high commission, in 1626 bishop of Bath and Wells, in 1627 a privy councillor, and in 1628 bishop of London. He became the confidential adviser of Charles I. in ecclesiastical affairs, succeeded Buckingham in the royal favor, and began to play a foremost part in politics. His first object was to force the Puritans and other dissenters to conformity. "Under his direction," says Macaulay, "every corner of the realm was subjected to a constant and minute inspection. Every little congregation of separatists was tracked out and broken up. Even the devotions of private families could not escape the vigilance of his spies. Such fear did his rigor inspire, that the deadly hatred of the church, which festered in innumerable bosoms, was generally disguised under an outward show of conformity." His zeal for the exaltation of the prelatical character, his passion for a ceremonious worship, and his reverence for holidays, vigils, and sacred places, prompted his other measures. In 1628 Dr. Leighton, a Scotchman, published a book entitled "Sion's Plea against the Prelacy." At the instigation of Laud he was brought before the star chamber in 1630, was condemned to pay a fine of £10,000, was twice publicly whipped and pilloried in Cheapside, had his ears cut off, his nostrils slit open, and his cheeks branded with the letters S. S. (sower of sedition), and was imprisoned 11 years in the Fleet. Laud was now intimately associated with the earl of Strafford, of whose principle of "thorough" he approved. He became chancellor of Oxford in 1630, of which university he was a liberal benefactor, and was present in 1638 at the coronation of the king in Scotland, urging the forced establishment of episcopacy and uniformity in that country, which resulted in a revolt in 1637 and the adoption of the national covenant. On his return he was promoted to the see of Canterbury, began his administration by the republication of the "Lawful Sunday Sports," enforced an exact observance of the rubric and a uniform discipline in the cathedral churches, and made the service approximate in several respects to the Roman Catholic ritual. He indicated his preference in the bestowment of benefices for single over married men. His tendency to

Catholicism appears from a record in his "Diary" that a cardinal's hat was offered to him, which he declined with the answer that "something dwelt within me which would not suffer that till Rome was other than it is." He became one of the committee of trade and the king's revenue in 1634, a commissioner of the treasury soon after, and a censor of the press under a decree of the star chamber in 1637. The clergy at that time held probably a larger share in the government of England than at any subsequent period. The public odium against Laud caused by his principles and his overbearing temper was greatly increased when the star chamber sentenced Prynne, Burton, and Bastwick to be fined and maimed for libels "against the hierarchy of the church." Immediately after the meeting of the long parliament in 1640 he was impeached for high treason and committed to the tower. After an imprisonment of more than 8 years, he was brought to trial, defended himself with ability and often with success through a long and wearisome process, and was condemned and executed by a sentence that is now admitted to have been unjust and illegal. The single aim of his life was to produce church uniformity, in the pursuit of which a narrow understanding and a nature devoid of deep benevolent feeling gave him a relentless zeal. The first edition of his complete works is in the "Library of Anglo-Catholic Theology" (6 vols., Oxford, 1847-9). His principal biographers are Prynne (1644), Heylin (1671), Lawson (1829), Le Bas (1836), and Baines (1855).

LAUDANUM, tincture of opium, prepared by macerating $2\frac{1}{2}$ oz. of powdered opium in 2 wine measure pints of diluted alcohol for 14 days, then expressing and filtering through paper; or 8 oz. of the drug in 2 imperial pints of proof spirit. About 25 drops of the tincture are equivalent to one grain of opium. The strength may be increased by exposure to evaporation; and when after standing some time it becomes thick, it should be administered with caution, especially to infants. (See **OPIMUM**.)

LAUDER, ROBERT SCOTT, a Scottish artist, born at Silver Mills, near Edinburgh, in 1803. Showing a taste for art in his youth, he was enabled by Sir Walter Scott to pursue his studies in the trustees' academy, Edinburgh. Subsequently he passed 5 years on the continent, and in 1838 established himself in London. His best pictures have been suggested by scenes in Scott's novels, and comprise "The Trial of Effie Deans," well known by the engraving of it, "Meg Merrilies," "Claverhouse ordering Morton to be Shot," &c. He has also produced large Scriptural compositions, one of which, "Christ teaching Humility," was purchased by the Scottish association for the encouragement of art as the commencement of a Scottish national gallery. Since 1849 he has resided in Edinburgh.

LAUDER, WILLIAM, a Scottish literary adventurer, born in the early part of the 18th century, died in Barbados in 1771. He was educated at the university of Edinburgh, and

subsequently made several attempts to procure a professorship in that institution, which, notwithstanding a high reputation for scholarship, were unsuccessful, his disposition and character being much disliked. In 1739 he published an elegant edition of sacred Latin poems by Arthur Johnston and others. A few years later he established himself in London as a teacher of the Latin tongue, and proposed to publish by subscription an edition of the Latin poetry of Grotius, Masenius, and others, of which only 2 vols. appeared (1752-'3). In Jan. 1747, he began to publish in the "Gentleman's Magazine" a series of papers, the object of which was to show that Milton, in composing his "Paradise Lost," had borrowed largely from Masenius, Staphorstius, Grotius, and other writers. The substance of these appeared in his "Essay on Milton's Use and Imitation of the Moderns in his 'Paradise Lost'" (1750), the preface and postscript of which were written by Dr. Johnson. A pamphlet by John Douglas, afterward bishop of Salisbury, in vindication of Milton from the accusation of plagiarism, showed that many of the passages cited as plagiarisms had been interpolated from Alexander Hog's Latin translation of "Paradise Lost." Lauder, unable to meet the charge of forgery and imposition thus brought against him, signed a confession of his offence, in the form of a letter to Dr. Douglas, dictated by Dr. Johnson; but he nevertheless published in 1754 another work impugning the fame of Milton, entitled "The Grand Impostor, or Milton detected of Forgery against King Charles the First;" an answer to which, supposed to be from the hand of Johnson, appeared in the "Gentleman's Magazine" of the same year. He subsequently emigrated to Barbados, where he kept a school.

LAUDERDALE. I. A N. W. co. of Ala., bordering on Tenn. and Miss., and bounded W. and S. by the Tennessee river; area, 672 sq. m.; pop. in 1850, 17,172, of whom 6,015 were slaves. It has a hilly surface, underlying which are iron ore and limestone in large quantities. The soil is fertile and well watered. The productions in 1850 were 785,145 bushels of Indian corn, 80,529 of oats, 52,159 of sweet potatoes, and 10,606 bales of cotton. There were 6 grist mills, 12 saw mills, 1 newspaper office, 85 churches, and 909 pupils attending public schools. The Tennessee and Alabama railroad will pass through the W. part of the county, and a branch of the Memphis and Charleston railroad extends from Tusculumbia to Florence, the capital. II. An E. co. of Miss., bordering on Ala., and drained by branches of Chickasawha river; area, 700 sq. m.; pop. in 1850, 8,717, of whom 2,661 were slaves. The productions in 1850 were 324,459 bushels of Indian corn, 111,444 of sweet potatoes, 102,203 lbs. of rice, and 4,195 bales of cotton. There were 9 saw mills, 9 grist mills, 1 newspaper office, 28 churches, and 521 pupils attending public schools. The Mobile and Ohio railroad passes through the county. Capital, Marion. III. A W. co. of Tenn., bounded N.

by Forked Deer river, S. by the Hatchie, and W. by the Mississippi, separating it from Ark.; area, 375 sq. m.; pop. in 1850, 5,169, of whom 1,766 were slaves. It has a level or undulating surface and a rich soil. The productions in 1850 were 216,896 bushels of Indian corn, 18,883 of sweet potatoes, 13,516 of oats, 157,440 lbs. of tobacco, 31,258 of butter, and 1,604 bales of cotton. There were 14 grist mills, 2 saw mills, and 11 churches. Capital, Ripley.

LAUDON, BARON. See LOUDON.

LAUMONITE (called by Werner efflorescing zeolite, from its property of crumbling to powder by exposure to the air), a mineral found in cavities in amygdaloidal rocks, and also in sienite and porphyry in different countries; named from Laumont the mineralogist, who first observed it in the lead mines in Brittany. It occurs in crystals of the form of oblique rhomboidal prisms, and also in lamellar masses. The color is yellowish or grayish white; hardness 3.5-4; specific gravity 2.3-2.4. In composition it is a hydrated silicate of alumina and lime, a specimen from Phippsburg, Me., giving the following proportions of its ingredients: silica 51.98, alumina 21.12, lime 11.71, and water 15.05=99.86. Some varieties are so liable to effloresce and fall to fine powder, that they can be preserved only by a coating of gum Arabic, which must be frequently renewed. The mineral is found at many of the copper mines of Lake Superior.

LAUNAY, EMMANUEL LOUIS HENRI DE. See ANTRAIGUES.

LA UNION, a seaport of San Salvador, situated on a bay of the same name, which is a part of the great bay of Fonseca; pop. 2,500. It is the principal port of the republic. Under the crown it was called San Carlos. It is hot and unhealthy, and the shoaling of the water in the bay before the town has been so great within the past few years that it is now proposed to remove the establishment to a point 6 m. further down the bay, called Punta de Chiquirin. La Union is in fact the port of the large commercial city of San Miguel.

LAUREL, a name applied to a great variety of plants found in nearly all parts of the world, from some real or fancied resemblance to the genus *laurus* (Linn.). Formerly many kinds of valuable trees and shrubs were considered species of this genus, which are now placed under distinct genera in the natural order of *lauraceæ* by those botanists who have carefully studied them. Such are the camphor tree (*L. camphorifera*, Kämpfer), the cinnamon tree of the East, and in this country the sassafras tree (*L. sassafras*, Linn.) and the benzoin (*L. benzoïn*, Linn.) of our northern flora, with the red bay (*L. Caroliniensis*, Catesby) of the southern states. The only genuine species now allowed is the sweet bay, or *L. nobilis* (Linn.). This is an evergreen tree, or rather shrub, sometimes growing to the height of 60 feet, yet always displaying a tendency to throw up suckers from the roots. Usually it is from 20 to 30 feet high,

and in Europe is cultivated in gardens as an elegant plant, its foliage being sempervirent, its leaves lanceolate, wavy at the margin, and quite smooth, and possessing an agreeable fragrance. The flowers, however, are small, 4 or 5 clustered together in the axils of the leaves, of a yellowish white color and dotted. The fruit is an ovate fleshy berry of a very dark purple approaching to black, endowed with the same aromatic properties as the leaves, whence both have been used as stimulants and carminatives. Several varieties are given, depending upon the character of the foliage, such as broader, narrower, more crisped, undulate, or variegated, and the like; and one sort is mentioned as possessing double flowers. The laurel (Gr. *δάφνη*) is represented in Greek mythology as having been created by the goddess Gæa (Terra) to console Apollo for the loss of the nymph Daphne, whom she had rescued from his pursuit. In the days of Roman greatness it was considered an emblem of victory and likewise of clemency, crowning the victor, and being borne in the hands of the returning soldiery. It is honorably mentioned by Chaucer as the crown of the knights of the round table. The laurel cannot bear much cold, and requires good soil. It is usually propagated by layers, but can also be raised from seeds, the layers being employed for increasing the rarer varieties. It is found to be very tenacious of life, and suckers have been known to spring up from a stump supposed for two years previous to be dead.—A species of evergreen cherry known as the Portugal laurel (*cerasus Lusitanica*, Loisel), supposed to be a native of Portugal or the Azores, is a handsome shrub 20 feet high, with leaves of a lucid green and long bunches of flowers, succeeded by oval berries of a dark purple when ripe. It has been used in Britain for hedges. In the neighborhood of London it has proved hardy, flowering and ripening its seeds. There is another cherry called in England the common laurel (*C. lauro-cerasus*, Loisel; *prunus lauro-cerasus*, Linn.). (See CHERRY LAUREL.) The Carolina laurel (*C. Caroliniana*, Michaux) and the holly-leaved laurel of this section of evergreen cherries (*C. ilicifolia*, Nuttall) are American species of the *lauro-cerasi*. The former is an evergreen tree from 30 to 50 feet high, growing upon river banks from South Carolina to Florida, Louisiana, and Arkansas, with leaves so poisonous as often to destroy cattle. The latter is a small-branched tree with large, bitter, and astringent fruit, found on the mountains of Santa Barbara, California. There are several other species, wrongly considered as North American but really European.—The term laurel is attached to many plants wholly diverse, of which the ground laurel (*epigæa repens*, Linn.), the spurge laurel (*daphne laureola*, Willd.), and the big laurel (*magnolia grandiflora*) are familiar examples. The so called American laurel, including the mountain laurel, sheep laurel, &c., is the genus *Kalmia* (Linn.). (See KALMIA.)

LAUREL, a S. E. co. of Ky., drained by Rockcastle river and Laurel creek; area, 288 sq. m.; pop. in 1850, 4,145, of whom 192 were slaves. The surface is undulating or hilly and thickly timbered, and the soil is fertile. The productions in 1850 were 54,927 bushels of Indian corn, 17,339 of oats, 2,122 lbs. of tobacco, and 11,688 of wool. There were 3 saw mills, 7 churches, and 180 pupils attending public schools. Capital, London.

LAURENS. I. A N. W. district of S. C., bounded N. E. by Enoree river and S. W. by the Saluda; area, 812 sq. m.; pop. in 1850, 23,407, of whom 11,952 were slaves; white pop. in 1859, 10,650. The surface is moderately uneven, and the soil, watered by numerous small rivers, is rich and well cultivated. The prevailing geological formation is granite. The productions in 1850 were 895,291 bushels of Indian corn, 129,694 of wheat, 192,476 of oats, 102,926 of sweet potatoes, and 15,842 bales of cotton. There were 83 grist mills, 23 saw and planing mills, 1 newspaper office, 42 churches, and 863 pupils attending public schools. Capital, Laurensville. II. A central co. of Ga., traversed by the Oconee river; area, 780 sq. m.; pop. in 1859, 6,682, of whom 3,238 were slaves. It abounds in soft limestone, and has an undulating surface overgrown in many places with forests. The soil is a fertile sandy loam, resting on a bed of clay. The productions in 1850 were 211,958 bushels of Indian corn, 82,995 of sweet potatoes, and 3,883 bales of cotton. There were 12 grist mills, 3 saw mills, 12 churches, and 200 pupils attending public schools. Capital, Dublin.

LAURENS, HENRY, an American merchant and statesman, born in Charleston, S. C., in 1724, died there, Dec. 8, 1792. His ancestors were French Huguenots who shared in the exile of the sect at the revocation of the edict of Nantes. He was educated in Charleston, was designed for mercantile life, and passed from school to a counting house in Charleston, from which he was transferred to another in London, where he might enjoy a larger field for commercial study and acquaintance. Returning to his native city, he began business for himself, which he pursued with a rare industry and intelligence. He was severely diligent, knew how to economize time, and was a model of integrity, method, and comprehensive judgment. As rigid with others as himself, he trained all his agents and subordinates to orderly habits like his own; so that his counting room became a school of discipline, into which the youth was deemed fortunate who could find his way. Many anecdotes are told of the strictness of discipline by which he endowed those about him with the most admirable attributes for business, and crowned his own career with ample fortune and the respect of the community. Although tenacious of his interests as a business man, he did not suffer them to quench patriotism, but was a sturdy opponent of the abuses of power. His contests with the crown

judges were frequent, especially in respect to their arbitrary decisions in marine law and the courts of admiralty, and his pamphlets gave remarkable proof of legal ability. He held a commission in one of the fierce border wars, when the British forces with the provincial regiments were called out to defend the frontier against Cherokee hostilities. He left a diary of the expedition in manuscript. Having realized an ample fortune and founded one or more valuable plantations, he retired from business, and in 1771 visited Europe, and put his sons to school in England. He made the tour of Great Britain, spent some time on the continent, and wrote diaries of his travels, full of curious details and reflections, which are still in manuscript. His methodical habits appear also in large and carefully arranged collections of letters written during his mercantile career. He was in London when the growing political controversies between the crown and the colonies had reached a degree of intensity which required the patriotic attention of every citizen. In 1774 he was one of 88 Americans, a large proportion of whom were South Carolinians, who signed a petition to dissuade parliament from passing the Boston port bill. He still hoped that wisdom and policy might avert the perils of war; was not prepared for separation, and strove only for redress of grievances; and in this feeling and opinion he represented justly the great body of the people of South Carolina, who were not then anticipating a violent issue. One third of them at least were of foreign birth, and only recently in the country. Finding, however, that petition was unavailing, and that war was inevitable unless averted by a base submission, he hastened home to take his part in the patriotic cause, reaching Charleston near the close of 1774. He was made one of the council of safety, of which body he soon became president. His energy, courage, and habits of business were all brought into active exercise, and he fully satisfied the demands of patriotism and the community by his zeal and devotion. In 1776 he was elected a delegate to the continental congress from South Carolina, and became its president, which office he held till the close of 1778. He was a frequent correspondent and resolute supporter of Washington. His correspondence with him, and with many of the most remarkable men of the revolution, is still extant, showing his methodical habits, patriotism, and sagacity. In 1779 he was appointed minister plenipotentiary to Holland, to negotiate a commercial treaty, but was captured on his way thither by a British frigate. He threw his papers overboard, but they were recovered by the enemy. They afforded conclusive evidence of his mission, and also disclosed the fact that Holland had been in secret negotiation with the revolted colonies, which led to a declaration of war by Great Britain against Holland. He was taken to London, was known to have been president of the rebel congress, and was closely incarcerated in the tower. His health suffering, he

was indulged with a daily walk in fresh air, accompanied by a guard. On one of these occasions he happened to encounter Lord George Gordon, then a prisoner also, and was addressed by him. Though refusing to walk or converse with his lordship, such was the jealousy of the crown officers that he was remanded into close confinement. His imprisonment continued for nearly 15 months, during which he was greatly enfeebled, and suffered also from frequent and acute attacks of gout. He was solaced, however, by the kind attentions of many friends, among whom was Edmund Burke. The British government made frequent attempts on his patriotism, but in vain. All that they obtained from him was a petition for his enlargement, modestly expressed, in which he stated that he had honestly striven to prevent the final rupture between the crown and the colonies. While a prisoner he learned the death of his son, John Laurens, slain in a skirmish near the close of the war. Though his health was broken when he was released, he received the commission of congress as one of its ministers for negotiating the peace. He proceeded to Paris, where (Nov. 30, 1782) with Franklin and Jay he signed the preliminaries of the treaty. On his return to America he was welcomed with the highest consideration. Offices were tendered him, which he was compelled to decline. His failing health, advanced age, and the dilapidation of his estates, which had suffered from British sequestration, required that he should confine his attention to his own interests. The last years of his life were given to agriculture. By an injunction in his will, his body was burned according to detailed directions of his own, and the remains collected and buried. He left numerous original and valuable papers, a portion of which have been published in the collections of the S. O. historical society.

LAURENS, JOHN, son of the preceding, lieutenant-colonel in the American revolutionary army, a favorite aide-de-camp of Washington, born about 1756, slain in battle on the Combahee, S. C., Aug. 27, 1782. He was educated chiefly in England, but returning at the opening of the war joined the American army in 1777. As an aid of Washington, he was frequently his secretary, and the letters of the commander-in-chief in his handwriting are still extant. He distinguished himself in the battle of Brandywine. In the battle of Germantown he was severely wounded while boldly attempting to expel the enemy from Chew's house. He was engaged at Monmouth, and acquired increased reputation in Rhode Island. On the appearance of the enemy in the South he repaired to Charleston, and was attached to the militia force of Moultrie, who was watching the movements of the British in Georgia. When the British general Prevost attempted a *coup de main* against Charleston with a force of 5,000 men, Gen. Moultrie threw himself across his path with but 1,000 militia, seeking only to retard, not to arrest, his advance. In this task

of skirmishing and covering defiles Laurens was greatly distinguished. At the pass of Coosawhatchie, at the head of about 30 regulars and 200 militia, he met the columns of Prevost, and was again wounded, escaping with his life only by the gallantry of a subordinate officer, Capt. Wigg. Confined to the garrison of Charleston, he was the right arm of Moultrie during its brief investment. Subsequently, when the combined French and American forces under D'Estaing and Lincoln attempted the storm of Savannah, he led the light infantry, and was one of the first to mount the British lines. When Charleston was besieged by Sir Henry Clinton, he was prominent in sorties, and displayed uniform courage and enthusiasm. After it had fallen into the hands of the enemy, he rejoined the army of Washington, then utterly lacking in resources. It became necessary to appeal to France for succor, and it was determined to send a special representative from the army who could boldly report its real condition. For this mission Washington designated Laurens to congress, and he set out in the autumn of 1780. The object was to negotiate a loan. He promptly reported his arrival and business to the minister Vergennes, but seemingly in vain. The formalities of court and the self-complacency of the minister, who would not be hurried, baffled him for more than two months. With the spirit of a patriot, knowing that the condition of his country would admit of no more delay, he determined in defiance of all form to take the affair out of the hands of subordinates by a direct appeal to the king. Dr. Franklin, the resident American minister, would have dissuaded him; Vergennes, to whom he avowed his purpose, was confounded by its audacity. But Laurens persevered, and at a public levee presented his memorial at a moment when Louis expected only a passing presentation of himself. He took occasion to say to the king that he was just from the army of Washington, that he knew well its condition, and touching his sword he added that unless speedy succor was sent to his country, the weapon which he now wore at his side, as the ally of his majesty, might be drawn, as the subject of the king of England, against him and France. The king was confused for a moment, recovered himself, replied briefly to the address, received the memorial, and at once proceeded to act upon it. Its prayer was granted, money and supplies were furnished, and the American army was saved. His mission thus successfully executed, Laurens returned, and resumed his military duties. At the siege of Yorktown he led a forlorn hope, captured one of the two redoubts which were stormed, and received in person the sword of the commander. When, in the closing period of the war, all active operations had ceased in the North, he hastened to join the army of the South under Gen. Greene. Here the enterprise of Laurens was manifest, though the war was languishing. In the numerous little affairs resulting from the necessity of checking British

depredations upon the plantations, and for confining the garrison to the walls of Charleston, he was constantly active; and he was conspicuous in some bold attempts to surprise their detachments along the sea islands and under the very guns of their shipping. In all these movements his bravery was such as to be accounted rashness; and the result would seem to confirm this judgment upon his conduct. Hearing of an enterprise against a strong marauding force of the British who were engaged in ravaging the plantations along the Combahee, Laurens, who had been for some time sick with ague, rose from bed, and eagerly sought the command of the troops designed for their arrest. By hard riding he overtook the brigade, which had already reached the north bank of the Combahee river, near the ferry. The enemy occupied the banks opposite. Twelve miles below the ferry, on the extreme end of Chehaw neck, the land juts out toward the bed of the river, affording from this point an excellent station from which to assail the enemy in his retreat. Laurens, with some 50 infantry, a few matrosses, and a howitzer, hastened to occupy this point. He reached the plantation of Mr. Stock, contiguous to the Chehaw point, on the night of Aug. 26, and prepared to reach the station by daylight in the morning. He spent the evening in pleasant conversation with the ladies. Possessing a fine education and all the graces of the courtier, he sought to dissipate their apprehensions by the gayest language, and merrily proposed to raise a scaffold for them, as in days of chivalry, from which they should be able to behold the action. The conversation was keenly remembered when the catastrophe of the next day was made known. The enemy had probably been advised of his movement, alighted their cables that very night, descended the river to Chehaw, landed in force on the point of which Laurens proposed to take possession, and covered themselves in the long grass and fennel, in ambush, along the road on which he had to pass. As soon as they were discovered, he charged them, riding at the head of his troops, and, leading them on with desperate gallantry, was slain at the first fire of the British. The bitterness of this catastrophe was deepened in the public mind by the reflection that the affair in which he was engaged was of so small significance; that the war was virtually over; that the predatory party against which he went was not seeking an encounter, but forage and provisions for the necessities of the garrison, and with which to supply the shipping in preparation for the evacuation of the city. Very great and general was the sorrow occasioned by so sad and sudden a close to his brilliant career. Washington himself lamented him with keen feeling and eloquent utterance. So did Greene, Hamilton, and most of the eminent men of the time. Laurens had been greatly in the confidence of Washington, and was a close comrade of Hamilton; and these two young men, with an ardent attachment for each other, were emulous in the struggle for great

achievements. It was the preference of Washington which decided congress to appoint Laurens the commissioner to France. Washington knew the proper man, and knew what was needed. Laurens requited the preference of Washington with the most affectionate devotion; toiled in his tent at midnight writing letters and despatches; was his chief medium of communication with the foreigners, French, German, and Polish, in the service; rushed between him and danger at Monmouth; and sometimes, perhaps, exhibited his attachment in a manner which the severe Washington might not be prepared to approve, yet could not properly condemn, as when he called out and shot Gen. Charles Lee in a duel for disrespectful language to his general. Lee, wounded, said of his antagonist: "How handsomely the young fellow behaved! I could have hugged him!" So various were his merits, so distinguished his chief excellences, talents, accomplishments, and virtues, that his death called everywhere into utterance the voice of eulogy and lamentation. Hamilton wrote of him in terms of the liveliest regret and admiration. Even before this period, he had won among his comrades and in the army the title of the "Bayard of the revolution." His very daring, even to desperation, had vast and beneficial uses during the revolutionary war, when the Americans were but too apt, at one time, to hold British grenadiers to be invincible. The knowledge of this, the desire to inspire the militia, the wounded pride of personal character, were the influences that prompted Laurens and other gallant gentlemen to seek danger, as it would seem wantonly, the better to impress and raise the courage of their people. At the council board, Laurens was calm, circumspect, and judicious. As one instance of that magnanimity which distinguished his general conduct, it may be mentioned that when promoted by congress, out of the regular order, and in advance of grade in the army, he declined the commission, lest it should awaken the jealousy of comrades, wrong their claims, and do harm to the service. His European education gave him great advantage over his brother officers generally in American society, but he never presumed upon it, and, except in the field, was singularly unambitious of display. His correspondence was voluminous, and large portions of it are yet preserved. It exhibits an easy, graceful, yet vigorous style, marked equally by thought, information, and originality and freedom of opinion. He strenuously urged upon his father the employment of negroes in the armies of the South, alleging their frequent employment in those of the North, and that, under good white officers, they could be made to do good service. He was not unaware that, under the old colonial system of South Carolina, masters taking the field in the border wars were required to bring with them a certain quota from the body of their slaves. These, following their owners into battle, were found efficient. But his father opposed the policy in an able letter which is still extant: and

though the measure was broached in congress, and by South Carolinians (in fact it originated with John Laurens), it was deemed inadvisable to adopt it. The truth is, the southern army had no other means of support than those which came from the slave labor in the fields. There was no pay, no provision, no commissariat, no money, no resources, save what was gleaned at harvest time from the plantation; and the rice, corn, and tobacco fields of South Carolina sustained the two armies, British and American, during the last three years of the war in the South. Hence neither British nor American was eager to disturb the existing condition of things in respect to the slave labor of the South. The negroes were much more important to both parties in the fields of agriculture than in those of war.

LAURENTUM, an ancient city of Latium, between Ostia and Lavinium, about 16 m. from Rome, and contiguous to the coast. It was the capital of Latium and the residence of its king when Æneas and the Trojans arrived in Italy. After the establishment of the empire, it was incorporated with the neighboring municipality of Lavinium. Laurentum gave name to a territory which extended from the mouth of the Tiber to near Ardea, and which, in imperial times, was studded along the shore with the villas of the Roman aristocracy, among which were those of the younger Pliny and the emperor Commodus.

LAURISTON, ALEXANDRE JACQUES BERNARD LAW, marquis de, a French soldier, grandson of a brother of the financier Law, born in Pondicherry, Hindostan, Feb. 1, 1768, died in Paris, June 10, 1828. At the military school of Paris he was intimate with Bonaparte. In 1792 and following year he served in the armies of the north, of the Moselle and Sambre-et-Meuse, and distinguished himself at the siege of Valenciennes. In 1796 he resigned, and left the army; but he was recalled by Napoleon when first consul, was appointed his aide-de-camp, and accompanied him to Italy. In 1801 he was sent on diplomatic business to Denmark, and in 1802, having been chosen to convey to London the news of the ratification of the treaty of Amiens, was there received with great enthusiasm by the people, who took the horses from his carriage and drew him to Downing street. In 1805 he was sent under Admiral Villeneuve on an expedition to Martinique, where he took Fort Diamond. Ten days later the fleet sailed for Europe, and after an engagement off Cape Ortegal was defeated by Nelson at Trafalgar, Oct. 21. Returning to France, he was placed at the head of a division of the army sent into Germany, and was made governor of Braunau. In 1806 he was commissioned to superintend the surrender of the magazines and arsenals of Venice in accordance with the treaty of Presburg; and in the following year, by Napoleon's orders, he seized on the republic of Ragusa as a reprisal for the Russians having occupied the harbor of Cattaro. His defence of Ragusa against

overwhelming odds was his most brilliant exploit. His allies the Turks having taken many Russian prisoners, Lauriston, in order to save their lives, ransomed them with his own money. In 1808 he accompanied Napoleon to Spain; in 1809 he was with Prince Eugène Beauharnais in Italy and Hungary, where he distinguished himself at the battle of Raab. The victory of Wagram was in great measure due to his bringing up 100 cannons in the face of a terrible fire. After the peace he negotiated the marriage of Napoleon with Maria Louisa, for which service he received the title of count and a mission to Russia. He remained in Russia until 1812, when he joined the grand army. After the retreat from Moscow he organized at Magdeburg the 5th corps, occupied Leipsic during the battle of Lützen, turned the right wing of the enemy at the battle of Bautzen, and took Breslau, June 1, 1813. He was made prisoner at Leipsic, and did not recover his liberty until after the peace of Paris. He was treated with regard by Louis XVIII. When Napoleon returned, Lauriston accompanied the king to Béthune and then retired to his estate of Richecourt, where he remained during the Hundred Days. For this he was appointed peer of France and commander of the infantry of the guard. In 1817 he was created marquis, and in 1820 was called to direct the administration of the royal household. In May, 1821, he received the baton of a marshal of France, and after the campaign in Spain in 1823 was in command of the 2d corps of the reserve. His death, which took place while visiting a celebrated opera dancer, excited much attention in Paris.

LAUSANNE, a city of Switzerland, and capital of the canton of Vaud, situated near the N. shore of the lake of Geneva, and about $\frac{1}{2}$ m. from Ouchy, its port on that lake; pop. increased from 8,818 in 1798 to 14,126 in 1828, and 14,500 in 1850, beside 8,186 in the out-parishes or *banlieue*. It is built on 8 steep hills, which project from Mont Jorat, the highest of which is crowned by the old cathedral 500 feet above the lake. The cathedral, a noble Gothic structure of the 13th century, is adorned with a lofty tower and a spire, and contains the remains of St. Bernard de Menthon. The church of St. François is also a very old building, and is memorable for the council assembled within its walls in 1449, in which Felix V. resigned his claims to the papedom. The other remarkable buildings are: the old episcopal palace, now the government house; the college, which contains the cantonal library (88,000 vols.) and a valuable museum; the penitentiary, the charity schools, and the casino or club house. The streets are steep, narrow, and ill paved. The manufactures comprise woollen cloth, paper, leather, and jewelry, and some trade is carried on in wine, which is the staple of the canton. Steamboats ply on the lake between Ouchy, Geneva, and other towns; and a railroad has been constructed to Yverdon at the head of the lake of Neuchâtel. Among the objects of interest are the house in

which Gibbon wrote the greatest part of his "Decline and Fall," and the grave of John Kemble in the cemetery of St. Pierre de Plain near the city. A remarkable fragment of black Roman ware, with figures moulded in high relief, and a beautiful specimen of blue glass from the supposed site of the Roman Lausonium, near Lausanne, were exhibited in the London archaeological institute in Dec. 1858.

LAUZUN, ANTONIN NOMPAR DE CAUMONT, duke de, a French courtier, born in 1633, died Nov. 19, 1723. A poor nobleman from Gascony, he made his fortune at the French court by his elegant manners and wit and dauntless ambition, and became a favorite of many of the most eminent and beautiful women, and of Louis XIV., who appointed him to various offices. He was about to marry Mlle. de Montpensier, granddaughter of Henry IV., and to take the command of the French army in Flanders, when the intrigues of Louvois and Mme. de Montespan caused him to be detained in prison for many years. He finally recovered his liberty at the instance of the French princess, whom he is supposed to have secretly married. In 1688 he escorted the queen of James II. and her infant son to France, and in 1689 took an active part in the fruitless expedition to Ireland. Although he never fully recovered the good graces of the French monarch, he was raised to the rank of duke in 1692. Mlle. de Montpensier died in 1693, and in 1695, at the age of 62, he married Mlle. de Duford, a girl of 16. Lauzun figures frequently in the French literature of the 17th century, and even of a later period, particularly in the works of Mme. de Sévigné, La Bruyère, and St. Simon.—The *Mémoires du duc de Lauzun*, of which various editions have appeared, and a new one by Lacour in Paris in 1858, do not refer to this Lauzun, but to another noted individual, who was a member of the Biron family. (See BIRON.)

LAVA. See VOLCANO.

LAVACA, a S. E. co. of Texas, watered by Lavaca and Navidad rivers; area, 926 sq. m.; pop. in 1858, 4,907, of whom 1,481 were slaves. It has an undulating surface, partly covered with ash and post oak timber, and a fertile soil adapted to cotton, sugar, and Indian corn. Value of land in 1859, \$627,769. Capital, Petersburg.

LAVAL, a fortified town of France, seat of a bishop, and capital of the department of Mayenne, on the Mayenne river, 186 miles by railway from Paris; pop. in 1856, 19,292. There is a considerable trade in wine, brandy, wood, iron, clover, and marble. It was in the environs of Laval that originated, in 1791, the royalist insurrection called the Chouannerie. A brilliant victory of the Vendean army over the republicans was gained near Laval, Oct. 25, 1793.

LA VALETTE, ANTOINE MARIE CHAMANS, comte de, a French officer, born in Paris in 1769, died there, Feb. 15, 1830. At the breaking out of the revolution he became an officer of the national guard, in which capacity he was one of the last defenders of the king, on

Aug. 10, 1793. Entering the republican army, he distinguished himself on the Rhine and in La Vendée, and gained the confidence of Napoleon, who appointed him his adjutant and private secretary. He accompanied Napoleon to Egypt, and became more nearly allied to him by marrying a niece of Josephine. After the 18th Brumaire he was made postmaster-general and count. In 1814 he lost his office, but regained it after the return of Napoleon from Elba. After the restoration of Louis XVIII., he was arrested for having aided the emperor, and condemned to death. He escaped, by the aid of his wife and daughter and three English gentlemen, and went to Munich, where he was kindly received by the king. Mme. La Valette, after the escape was discovered, was kept for some time imprisoned, and became insane; but she survived until June, 1855. In 1822 La Valette was pardoned and returned to France, where he lived in obscurity. He left a volume of *Mémoires et souvenirs* (Paris, 1881), containing an interesting account of his escape. Napoleon I. bequeathed 800,000 francs to La Valette, of which 60,000 were paid to him; in 1855 Napoleon III. caused the remainder to be paid to his heirs.

LA VALLIÈRE, FRANÇOISE LOUISE DE LA BAUME LE BLANC, duchesse, a French lady celebrated for her intimate relations with Louis XIV., born in Tours in Aug. 1644, died in Paris, June 6, 1710. After the death of her father, a French nobleman and superior officer, her mother married the baron de St. Rémy, who was attached to the household of the dukes of Orleans. Introduced at court and appointed maid of honor to Henrietta of England, sister-in-law of Louis XIV., Mlle. de La Vallière soon received the homage of several distinguished persons, whose attentions she discountenanced from a feeling of sincere love and admiration for the king. All who became acquainted with the young lady were struck with her modesty, gentleness, and truthfulness, as well as with her personal charms and varied accomplishments; and the most eminent French writers, as Racine, La Fontaine, and Mme. de Sévigné, bestow the highest encomiums upon her virtues and graces. Her love for Louis XIV. was as enthusiastic as it was disinterested; and after having for some time resisted his advances, she became his mistress in 1661, but on several occasions felt impelled by conscientious scruples to desert her lover, who twice succeeded in bringing her back from the convent in which she had taken refuge. In 1674, however, she left him definitively, and took the veil in the Carmelite convent of the faubourg St. Jacques under the name of Sister Louise. She received the visits of the queen, the duchess of Orleans, and other warm admirers, and, engaged in works of piety and charity, spent the rest of her life in the seclusion of that convent, of which Mme. de Montespan, who had succeeded her as mistress of the king, also eventually became an inmate. She bore 4 children to the king, 2 of

whom were legitimized, viz., Mlle. de Blois, who married the prince of Conti, and the count of Vermandois. She wrote a work entitled *Reflexions sur la miséricorde de Dieu, par une dame pénitente* (1680), of which a copy, dated 1688, with corrections by Bossuet, was discovered in the Louvre library by M. Damas-Hinard in 1852. The original as well as the corrected work was edited by M. Romaine Cornut (Paris, 1854). A collection of her letters was published in 1767. Among the works based upon her life, the novel of Mme. de Genlis has attained the greatest popularity. Lebrun's "Magdalen" in the Val de Grâce in Paris is said to represent the features of the duchess. See Arsène Houssaye, *Mlle. de La Vallière et Mme. de Montepan* (Paris, 1860).—Her grand-nephew, LOUIS OCSAR DE LA VALLIÈRE, born in 1708, died in 1780, was a celebrated bibliophile.

LAVATER, JOHANN KASPAR, a Swiss mystic and physiognomist, born in Zürich, Nov. 15, 1741, died there, Jan. 2, 1801. He was the son of a physician, a timid, sensitive, imaginative boy, with an aversion to school, but fond of poetry, solitude, and religious reverie. Intended for holy orders, he pursued his studies at Zürich, but was more interested in Klopstock and Rousseau than in controversialists, and sought the revival of piety rather by humble labors as member of an ascetic society than by weighing theological formulas. "Limit yourself at every moment, if you can, to what is nearest to you," was one of his early ethical precepts. Notwithstanding his shrinking nature, his first public act was a vehement pamphlet (1762) assailing an oppressive but influential officer of Zürich, which made it advisable for him to leave his native town for a time. He went to Berlin, then, under Frederic the Great, the centre of intellectual culture in Germany, and continued his studies in that capital, enjoying the friendship of Sulzer and Mendelssohn, and in Barth, Pomerania, under the theologian Spalding. Returning to Zürich in 1764, he entered on the duties of pastor, and the peculiar charm of his mystical discourses, his benevolent character, and blameless life made him warmly and universally beloved. His published sermons and his correspondence soon extended over Europe. In 1767 appeared his *Schweitzerlieder*, containing his finest poems, which was followed by his *Ausichten in die Ewigkeit* (3 vols., 1768-'73), the first of a series of works in which he maintained the perpetuity of miracles, the irresistibility of prayer, and the necessity for every person to conceive of God as manifested in Christ crucified in order to be really alive himself. The last doctrine was called his Christomania. He determined to oppose his illumination to the philosophy that was reigning at Paris and Berlin; and having found in the *Palinogénésie philosophique* of Bonnet what he deemed a triumphant exposition of Christian faith, he sent a translation of it with remarks of his own to his friend Mendelssohn, the mildest and ablest living advocate of deism, and

summoned him either to refute it or to become a Christian. The controversy which ensued excited the greatest interest. Mendelssohn maintained that according to the system of Bonnet it would be as easy to demonstrate the divine origin of Islamism or Buddhism as of Christianity; and Lavater, fearing that his imperious challenge had been intolerant and unkind, withdrew it in a long letter. From that time he was the chief and almost the idol of the mystics. He explained the performances of Gessner and Mesmer by the theory of the Rosicrucians, visited and disputed with Cagliostro under a conviction that he was an envoy of Satan, and was suspected by his contemporaries of almost all heresies, of being an atheist, and of being secretly a high officer in the order of Jesuits. His celebrity was extended into foreign countries chiefly by his *Physiognomische Fragmente zur Beförderung der Menschenkenntnis und Menschenliebe* (Leipzig, 1775-'8), the first elaborate attempt to reduce physiognomy to a science, illustrated with numerous engravings and vignettes, and superior in respect of paper and typography to any book previously issued from the German press. It was the fruit of singularly acute observations from an early period of life, confirmed by the study of a large collection of likenesses of distinguished personages which are introduced into the work. Though he was sometimes deceived, the remarkable skill of Lavater in detecting character by some slight feature was often proved. The new science was widely studied, occasioned many discussions, and was assailed with ridicule by Lichtenberg at Göttingen, by Nicolai at Berlin, and by Zimmermann in a parody on the physiognomy of tails. The author was visited at Zürich by numerous curious and eminent persons, whose characters he usually judged with sagacity; at a glance he recognized Necker, Mirabeau, and Mercier. He made a long and philosophically impartial commentary on his own physiognomy as displayed in several silhouettes: "A most delicate organization, forming a singular *ensemble*, many of whose parts are in contrast. He delights in high metaphysical speculations, and his intelligence cannot grasp the simplest mechanism. His imagination is extravagant, disordered, immensely eccentric; but it is checked by two severe guardians, good sense and a good heart. He knows much, but is the least erudite of all professional savants. None of his knowledge has been acquired; every thing has been in some sort given to him. He loves, and has never been in love." The last years of his life were connected with the efforts of the Swiss for freedom. He had hailed the French revolution with an enthusiasm which was quickly changed to horror. His declamations in the pulpit against the French party caused him to be banished to Basel in 1796. He was soon permitted to return, renewed his pastoral offices, and opposed the oppressive measures of the French directory, till, when Masséna took Zürich (Sept. 26, 1799), he was shot in the streets while en-

couraging the soldiers and relieving the wounded. The shot is said to have proceeded not from a French but a Swiss soldier, who thus gratified a personal and partisan spite; and though Lavater recognized him he did not divulge his name, but wrote verses of forgiveness. He languished from the wound with severe suffering for more than a year. The original and peculiar character of Lavater was admired by Goethe, who pronounced him "the best, greatest, wisest, sincerest of all mortal and immortal men that I know." Their friendship was however interrupted in consequence of Lavater's portraiture of the non-Christian in his "Pontius Pilate."—A selection from his voluminous works was edited by Orelli (8 vols., Zürich, 1841-'4). His biography was written by Gessner (1802). His work on physiognomy has been issued in various forms in the principal languages of Europe. The best English translation is by Henry Hunter, D.D. (5 vols., London, 1789-'98), the engravings for which were under the superintendence of H. Fuseli, who also translated his "Aphorisms on Man" (London, 1788). Other translations are by Thomas Holcroft (3 vols., London, 1789-'93; 10th ed., 1 vol., London, 1858), Morton (3 vols., 1793), and Moore (4 vols., 1797).

LAVENDER (*lavandula*, Linn.), a genus of hoary, narrow-leaved, fragrant, sub-shrubby, shrubby, or else perennial-herbaceous plants, of the natural order *labiata*, indigenous to the south of Europe, the Canaries, Barbary, Egypt, Persia, and the west of India. Don gives as many as 18 species, but there are two only which are economically employed. The common lavender (*L. spica*, Linn.) has been long known in British gardens, and in deep, dry, warm soil it forms a compact hemispherical bush, flowering abundantly every year. Its flowers are lilac or purple, though a white-flowered variety is known. This species bears many names; it is De Lamarck's *L. vulgaris*, De Candolle's *L. vera*, and the *L. angustifolia* of Miller and Moench. It yields the fragrant oil of lavender, extensively used in perfumery. The odor of the plant resides in this oil, which is contained in every part of the plant, but principally in its spikes of flowers from which it is distilled. A single drop of this oil, if put into a box along with a living insect, is said to immediately kill it. The lavender is easily propagated from cuttings, which often send up flower stalks the same season. The second kind, sometimes called French lavender and sometimes spike or broad-leaved lavender, is the *L. spica* of De Candolle, and the *L. latifolia* of Villars. According to Linnaeus, it is only a variety of the common lavender, and is his *L. spica* β , and De Lamarck's *L. vulgaris* β . Its oil, called oil of spike, is employed by painters on porcelain and in the preparation of varnishes for artists. The plant has the habit of the common lavender, but more humble and the aspect more hoary, the spikes more dense and shorter; it yields by distillation twice as

much essential oil as the preceding. The tooth-leaved lavender (*L. dentata*, Linn.) and the ring-leaved lavender (*L. pinnata*, Linn.) are curious in their leaves, and may be regarded as clean and pretty plants in collections. The sweet basil (*ocymum basilicum*, Linn.) is commonly called lavender in our gardens; but, though belonging to the same natural order, it is rather a pot herb used for seasoning than a plant for perfumery.

LAVINIUM, an ancient city of Italy, in Latium, situated near the sea, between Laurentum and Ardea, about 17 m. from Rome. It is said to have been founded by Æneas, shortly after his arrival in Italy, and named by him after his wife Lavinia. He made it the capital of Latium, but it was never, in historic times, of much political importance, and Strabo speaks of it as presenting the mere vestiges of a city, though still retaining a sacred character.

LAVOISIER, ANTOINE LAURENT, a French natural philosopher, and the chief founder of the modern system of chemistry, born in Paris, Aug. 26, 1743, died on the scaffold, May 8, 1794. He was the son of a rich merchant, studied at the Mazarin college, and from his early youth evinced considerable taste for natural philosophy. He learned astronomy from La Caille, chemistry from Rouelle, and botany from Bernard de Jussieu. In 1764 he won a prize from the academy of sciences by his *Mémoire sur la meilleure manière d'éclairer les rues d'une grande ville*, which was afterward printed at the expense of that learned body. Several other essays, especially his *Mémoire sur les couches des montagnes*, secured him admission to it in 1768. This distinction increased his zeal for the improvement of science; and in order to meet the heavy expenditures necessitated by his experiments, he sought and received an appointment as farmer of the public revenue. He pursued his two callings with equal success, showing himself a skilful administrator no less than an acute philosopher. In 1776 the minister Turgot placed him at the head of the *régie des salpêtres*, in which station he was able to introduce many improvements into the manufacture of gunpowder. From 1778 to 1785 he gave attention to agriculture, and enriched the science of husbandry by many valuable suggestions. In 1787 he was elected to the provincial assembly of Orleans. In 1788 he became one of the trustees of the bank of discount, and in 1789, as assistant deputy to the constituent assembly, presented an interesting report upon the condition of that institution. He was a member of the commission on weights and measures in 1790, and took great interest in the preparation of the new decimal system. Being in 1791 one of the commissioners of the treasury, he published his essay *De la richesse nationale de la France*, in which he presented a plan for the collection of taxes; this essay, which was to be but the forerunner of a complete treatise upon this important subject, entitles him to a high rank among political economists. But the best of

his energies had been devoted to chemical investigations, which he pursued with untiring perseverance from 1772 till his death; in 1786 he had published no fewer than 40 essays or memoirs, giving incontrovertible evidence of great logical power and unparalleled acuteness, while successively embodying the principles out of which chemical science was to be renovated. His discoveries and general influence in this branch of natural philosophy have been already treated in the article CHEMISTRY. His greatest work is his *Traité de chimie* (2 vols. 8vo., Paris, 1789), a synopsis of modern chemistry, in which he exhibits no less ability as a logician than as a natural philosopher. His physical investigations were also valuable; he wrote an excellent essay, *Du principe constitutif de la chaleur*, first printed in the *Mémoires de l'académie des sciences* in 1777. In his later years his attention was mostly turned to applications of chemistry to physiology, and his two *Mémoires sur la transpiration des animaux* deserve to be particularly noticed. He was collecting all his writings with the ultimate view of remodelling them into a single work, when the course of revolutionary events brought him to a premature end. Dupin, a member of the convention, having on May 2, 1794, introduced an act of accusation against all the farmers of the public revenue, Lavoisier delivered himself up and was imprisoned; on the 6th he was involved in the general sentence of death against the corporation to which he belonged, and two days later he was guillotined. His essays were collected and published by his widow under the title of *Mémoires de physique et de chimie*, in 2 vols. 8vo. Proposals for a complete edition of his works were issued in 1847; but they have not been carried out, nor has any public monument been erected to him.

LAW (Lat. *lex*, from *lego*, to collect), in its general sense, a rule of action; in a more restricted signification, a rule of human conduct, or collectively a body of regulations adapted to a particular subject. In the civil code of Louisiana it is defined as a "solemn expression of the legislative will." Law, regarded as a body of rules for the direction of the individual in his relations with society, is treated in the articles CIVIL LAW, CODE, COMMON LAW, CRIMINAL LAW, LAW MERCHANT, and MARTIAL LAW; as regards matters of ecclesiastical jurisdiction, in the article CANON LAW; and as regards the mutual rights and relations of states, in the article LAW OF NATIONS.

LAW, EDMUND, an English divine and philosopher, bishop of Carlisle, born in Cartmel, Lancashire, in 1703, died at Rose Castle, his episcopal residence, in 1787. He was educated at St. John's college, and became a fellow of Christ's college, Cambridge, where he published a translation of Archbishop King's "Essay on the Origin of Evil," with copious annotations. During the controversy excited by the views of Dr. Samuel Clarke, he published his "Inquiry into the Ideas of Space, Time," &c. In

1756 he became master of Peterhouse, Cambridge, was appointed in 1760 university librarian and professor of casuistry, and after other preferments received in 1768 the bishopric of Carlisle. His master in philosophy was Locke, whose system he represented at Cambridge, and of whose works he published an edition in 1777.

LAW, EDWARD, LORD ELLENBOROUGH. See ELLENBOROUGH.

LAW, JOHN, of Lauriston, a British financier, born in Edinburgh in April, 1671, died in Venice, March 21, 1729. He received an excellent education, and manifested at an early age a talent for finance, but was also notorious as a gambler and roué. Having killed an antagonist in a duel, he fled to France. Thence he went to Holland, where he made a special study of banking in the great bank of Amsterdam. In 1700 he returned to Scotland, and published a work advocating the establishment of a bank which should hold all the sources of revenue of the state in its own hands, and, treating them as capital, issue notes, and at the same time make a profit by discounting. The proposition was declined by government, and Law went with his scheme to Paris, where it also failed to meet approbation. He was afterward expelled from several other European cities, but not before he had obtained admission to the court circles, and gained large sums at gambling. On the death of Louis XIV., and the accession of the duke of Orleans to the regency, Law reentered Paris with a fortune of more than \$500,000 made by gambling. The financial affairs of the French kingdom being at this time in the utmost embarrassment, he soon gained a hearing, and, having secured the patronage of the regent, in 1716 established a bank under royal authority. This institution was authorized to discount bills of exchange, and to issue notes redeemable in specie of fineness equal to that of the current money of the realm. As it accepted at par government bills, on which there was a discount of nearly 80 per cent., and as there was a general want of private credit, its stock was soon taken, and a very lucrative business established. Law, however, aimed higher than this. He believed that while there was no standard of prices, or of money, credit was every thing, and that a state might with safety treat even possible future profits as the basis of a paper currency. With this view he established the Mississippi or West India company, based on the scheme of colonizing and drawing profit from the French possessions in North America. This company, enlarging its scope, soon absorbed the French East India company under the general title of the "Company of the Indies." It extended its capital to 624,000 shares of 550 livres each, and engaged itself to lend the king 1,600,000,000 livres at 3 per cent. An extraordinary fever of stock gambling had been gradually excited by these financial efforts, and the result was that the shares of the company rose to 85 or 40 times their original value. Great

extravagance resulted. Land near Paris rose to the value of 100 years' purchase, and most objects of commerce in the same proportion. But the constant decrease of specie in France, and the constant issue of government notes, which by May, 1720, had reached the sum of 1,925,000,000 livres, soon undermined the company. A crash came, the shares sank in value, and Law from the position of the comptroller-general of finances became a fugitive. It seems, however, to be well established that he was a sincere believer in his own scheme, and that he acted honestly, and with a lively desire to promote the public welfare. He laid by no money, and when he left France took with him only 800 louis d'or. He travelled for some time afterward in different European countries, and at the invitation of the British ministry finally returned to his native kingdom, being presented on his arrival to George I. by Sir John Norris. On Nov. 28 he pleaded at the bar of king's bench for the royal pardon for a murder, on which occasion he was attended by the duke of Argyle and the earl of Hay. He received from France a pension of 20,000 livres until the death of the regent, and entertained until that event hopes of arranging his differences with the French company of the Indies, which claimed from him the sum of 20,286,375 livres. Little by little he sank into obscurity, and finally died in great poverty in Venice, where his tomb is still to be seen in one of the churches.—Works upon Law and his system are numerous, but it is only within the present century that justice has to any degree been done to the uncommon abilities of which he was really possessed. See Thiers, *Histoire de Law* (published in Paris in 1858, from the *Revue progressive* of 1826; English translation, New York, 1859); Kurtzel, *Geschichte der Law'schen Finanz-Operation* (in Raumer's *Historisches Taschenbuch*, 1846); and Charles Mackay, "Memoirs of Extraordinary Popular Delusions" (London, 1850).

LAW, WILLIAM, an English religious and mystical author, born in King's Cliffe, Northamptonshire, in 1686, died in the same parish, April 9, 1761. He was admitted into Emmanuel college, Cambridge, in 1705, received the degrees of bachelor and master, and was elected to a fellowship in 1711, which he retained till 1716, when he forfeited it and all prospect of advancement in the church by refusing as a Jacobite to take the prescribed oath of allegiance to George I. He never again officiated in public, though livings were tendered him through his friend Dr. Sherlock, afterward bishop of London. In 1717 he engaged in London in the Bangorian controversy, publishing three letters to the bishop of Bangor which are among his most effective productions. In 1724 he wrote an answer to Mandeville's "Fable of the Bees," an admirable essay, which has been republished separately with an introduction by F. D. Maurice (Cambridge, 1844). He soon became tutor to the father of the historian Gibbon at Putney, accompanied

his pupil to the university of Cambridge in 1727, and afterward remained in the family more than 10 years. His treatise on "Christian Perfection" appeared in 1726, and was followed in 1729 by his "Serious Call to a Devout and Holy Life," his most popular work, which has been highly esteemed both in England and America by those most eminent for piety. Dr. Johnson mentions it as the first book which made him think in earnest of religion after he became capable of rational inquiry, and styles it the finest hortatory theology in any language. It abounds in felicitous portraiture of character, which reveal his knowledge of the world and aptitude for sharp and graceful satire, as well as his evangelical fervor. These writings caused him to be consulted as a spiritual adviser by many serious persons, and his piety and wisdom gave him great personal authority. Among those who admired and were instructed by him were the brothers John and Charles Wesley; and a divine named Dr. Trapp in a published discourse, which was answered by Law, attributed the origin of Methodism and other religious movements of the time to his influence and writings. To a young lady who had expressed a desire to be of the Roman Catholic communion he addressed three remarkable letters (1731-'2; first published in 1779). One of his friends was Mrs. Hutcheson, who after the death of her husband resolved to lead a retired and religious life, and chose him for her chaplain and adviser. Miss Hester Gibbon, a sister of his pupil, joined them, and from 1740 they dwelt together at King's Cliffe, engaged in exercises of piety, and devoting their combined annual income of about £3,000 to purposes of charity. A school was endowed for the instruction and clothing of 40 boys and girls, which still continues under the name of Law's and Hutcheson's charities. He had already begun his study of the writings of Jacob Boehm, whose doctrines he accepted and elucidated in several works, as the "Way to Knowledge" and the "Spirit of Love." Though he remained an ardent admirer of the principal theosophical writers, some of his most vigorous and latest productions, as the "Tract upon Warburton" and the "Address to the Clergy," are upon topics unconnected with his favorite studies. The translation of Boehm (Behmen) which bears his name (4 vols., 1764-'81) contains little by him beside illustrative mystical figures, having been prepared for the press by Mrs. Hutcheson and Miss Gibbon, and published at their expense. His collected works (9 vols., London, 1762) embrace 16 treatises and a collection of letters. The "Serious Call" has been often reproduced separately. Many notices of his life and character are found in the autobiography of Gibbon and the diary of the poet Byrom. "In our family," says Gibbon, "he left the reputation of a worthy and pious man, who believed all that he professed, and practised all that he enjoined." His life was written by Richard Tighe (London, 1818). A volume en-

titled "Notes and Materials for an Adequate Biography of the celebrated Divine and Theosopher William Law" was printed for the Theosophian library in London in 1856. It consists of an elaborate outline and series of studies preliminary to a biography, which is designed to be at the same time a historical and critical treatise on theosophical doctrines, and to be published in connection with a new edition of the writings of Boehm, Freher, and William Law.

LAW MERCHANT. This ancient phrase has been defined as synonymous with the law of merchants. It is rather the system of law which the courts of England and the United States apply to mercantile contracts. It is a branch of the common law, inferior in importance to no other, and in many respects quite distinct from any other. The principal subjects embraced within it are the law of shipping, including that of marine insurance; the law of negotiable bills of exchange and promissory notes; and the law of sales; all of which topics are treated of in this work specifically.—The law merchant has grown up gradually, and, during the larger part of its existence, slowly. It originated undoubtedly in the customs of merchants. That it stands out in English law, more prominently and distinctly than in any other general system of municipal law, may be reasonably ascribed to the greater extent of the commerce of England for many ages. It occupies a similar place in our law, in part because we inherit the law of England, and in part because the same extent of commerce which produced this system of law in England preserves it in the United States. In the earliest records of English law, we have distinct intimations that England, in all periods of its history from the reigns of its Saxon monarchs, had many ships and many merchants; that questions in relation to the interests and contracts of merchants came not unfrequently before the courts; and that these questions were decided even then by a reference to the customs of merchants, which was sometimes only understood, but in other cases was distinctly expressed. In doing this the courts only obeyed a necessity, which was felt wherever commerce existed and was respected. It is not to be concealed, however, that the courts did this with some reluctance, and by steps which followed each other only at long distances. The reasons for this are obvious, and may be discerned the more easily because they have not yet ceased wholly to operate. The common law was, at a very early period, a complicated but well arranged and exceedingly systematic body of law. To know this was the privilege of a few; to administer it gave wealth and dignity to a very few. The law was then a monopoly, and one of very great value, and it was guarded carefully by those who possessed it. Merchants did not wantonly disregard it; but they were compelled to find, or to invent, for the various exigencies of their commerce, rules and principles different from

those which had grown out of the feudal system, and were intended mainly to govern titles to land and the relations of feudal rank, and were admirably adapted for this purpose. When these mercantile contracts came before the courts, the same necessity which had led merchants to find and introduce their new rules, acted upon the courts, and induced the courts, more or less willingly, to accept these rules as their rules also, and thus to make them law. But while some of these rules were only modifications of the existing rules of the common law, others of them were very distinct exceptions, and some were positive contradictions. It was perhaps wise in the courts to regard with jealousy rules of law made by no sovereign authority, and neither evidenced nor promulgated in any authentic way. Nor are we obliged to attribute to mere selfishness of any kind the reluctance of the courts of law to admit these usages to the full force of law, at all periods and even at the present day. But at all times the established rules which governed the business and the contracts of any set of men, must have been recognized as law; and even the Roman civil law acknowledged the binding force of mercantile usage as constituting law. One instance of this is very remarkable, and of much historical interest. In the Digest (L. 14, tit. 2, sect 9), a rubric *de lege Rhodia de jactu* shows this regard to usage. In the reign of the emperor Antoninus, a vessel had been wrecked; a part of her cargo had been thrown over to lighten her, and by this loss the vessel and the remainder of the cargo were saved, and the owner of the property demanded a contribution from the others. Many centuries before this time the merchants and navigators of the Mediterranean had formed a code of laws for their own government, and as it was agreed upon at and promulgated from the island of Rhodes, then a principal centre of commerce, it was known as the Rhodian law. By this law, the claimant would be entitled to contribution under a principle which has come down to our own times, and is now in full force under the name of general average. The claim of the owner of the property lost was submitted to the emperor, and the rescript, or decree, was as follows: "I, indeed, am lord of the world; but the law (or this law) is the lord of the sea. Whatever the Rhodian law prescribes in the premises, let that be adjudged." The very next rubric makes the ship owner responsible for the acts of the master of his ship. Another (Dig. 4, 9) provides that mariners and certain others shall be responsible for all property committed to their charge. Another (Dig. 22, 2; Code, 4, 83) gives rules which are quite the same with those that regulate at this day loans on bottomry and respondentia. And another (Dig. 47, 9) provides that fourfold damages should be paid by the plunderer of a vessel in distress. These provisions of the Roman law, with the remains of the law of Rhodes, sufficed for the purposes of commerce until about 8 centuries since,

when the *Consolato del mare* was promulgated. It is an excellently constructed system, constantly referred to by law writers of continental Europe at this day, in some instances mentioned by English judges, and not unnoticed by courts and lawyers of the United States; and it would probably be much more used if we possessed a translation of it into English. The origin of this code is not certainly known, nor the name of its authors, nor the time or place of its original promulgation. Next to the *Consolato* in time, according to the best authorities, came the "Laws of Oléron." We know that these were collected, reduced to systematic form, and published, as the rules then in force for the regulation of shipping, in the small island of Oléron, off the coast of France. Queen Eleanor was duchess of the province of Guienne, near which Oléron lies, and French writers assert that she caused the preparation and publication of this code. English antiquaries refer it to her son Richard I. But no one certainly knows who was their author, or when they were first in force. This code has been repeatedly published in English, and is most accessible to American students in the first volume of Peters's "Admiralty Reports." Then followed the "Laws of Wisby." This was the name of a convenient port on the N. W. coast of Gothland, an island in the Baltic, about equidistant from Sweden, Russia, and Germany. These laws, its ancient celebrity, and its present ruins, all indicate that it was once the emporium of a great commerce. It has perished utterly, and historians attribute its rapid and complete decay to dissensions and conflicts among its citizens. These laws were probably founded upon the laws of Oléron, with which they frequently coincide. But it is of some interest to remark how commerce, which more than 2,000 years ago had a principal centre in the western Mediterranean, some 8 centuries since found an appropriate place for commercial legislation in some port of Italy; a few centuries later, in an island on the coast of France, and not long after in the centre of the Baltic sea; thus showing the extension certainly, and perhaps the migration of commerce. A French work called *Le guidon*, and often referred to under that name (the author being unknown), was published about 3 centuries since. Its whole title, translated into English, is: "A Useful and Necessary Guide to them who deal in Merchandise and send it to Sea." And then we reach the *Ordonnance de la marine* of Louis XIV., published in 1681. It covers the whole ground of maritime law, including insurance. It codifies and systematizes with great skill all existing provisions, whether they were derived from enactment or from usage, and in many instances improves upon them. Chancellor Kent calls this ordinance "a monument of the wisdom of his reign, far more durable and more glorious than all the military trophies won by the valor of his armies."—Passing now over to England, we find even in *Magna Charta* (1215)

a section (numbered 47 in Professor Bowen's excellent edition, but usually numbered as the 80th) running thus: "All merchants shall have safe and secure conduct to go out of and to come into England and to stay there, and to pass as well by land as by water, to buy and sell by the ancient and allowed customs, without any heavy tolls, except in time of war, or when they shall be of any nation at war with us." And the next section defines the rights of alien merchants in time of war. In subsequent reigns, and especially in those of the Edwards, various statutes were passed, expressly *de mercatoribus*, and in most instances securing to them valuable privileges. Such enactments were from time to time repeated, as they are to this day. And the struggle of the courts, and still more of members of the legal profession, to prevent this invasion of the law, is very remarkable. Thus a question early grew up whether "the custom of merchants" was to be regarded as a custom of certain places, differing in one of them from that which it was in others, or as a part of the general law of the realm. If it were the former, then any party who would profit by it, either as plaintiff or as defendant, must set it forth in his pleading and prove it specifically. If it were the latter, then it was the duty of the courts to know it, as it was their duty and office to know all the law of the land, and apply it in all cases, without suggestion from any one. After some intimations in favor of this latter view, in 1622 (Winch's Reports, 24) Lord Chief Justice Hobart declared that "the custom of merchants is a part of the law of this realm;" and Coke, in both the 1st and 2d Institutes, declares that "the *lex mercatoria* is part of the laws of the realm." So this question seems to have been finally disposed of. Not so easy was it however to determine, finally and practically, another question which had also arisen. When it was determined that the custom of merchants had become the law merchant, and therefore must be applied to all mercantile contracts between parties who were merchants, it was now asked whether the same law should be applied to the construction and enforcement of the same contracts when they were made between parties who were not merchants. That the law merchant should be confined to persons who were merchants was at first held by the courts (Cro. Jac. 808, A. D. 1618), in a case where a drawee and acceptor of a bill of exchange was sued on his acceptance, and the defendant prevailed, on the grounds that only a merchant would be held on such acceptance, and that it did not appear that the defendant was a merchant at the time when he accepted the bill. In another case occurring 19 years afterward, the same doctrine was held. But in two years more the court had got so far that, the defendant being called a merchant, they held that they would intend that he was a merchant at the time; and 22 years afterward the court in a similar case decided the whole question by declaring that "the custom is good enough

generally for any man without naming him merchant." From this doctrine the courts never afterward swerved. But whatever may have been the difficulty they experienced in coming to this conclusion, it was nothing to that which they found in overcoming the opposition of the bar. The rule just stated may be regarded as established in 1668, in a carefully considered case, and was declared by the court to be "of weight and concern for the future;" and yet for nearly 100 years the same question continually appears before the court, because the lawyers insisted upon regarding it as an open one. The answer of the court is uniform; and in some of the cases (and there are 8 at least reported in the books, occurring at different intervals of time until 1765) the court use very emphatic language, as if they were tired of hearing the question raised, and disposed to compel the profession, if possible, to submit to the final decision of it. But it was not until the year last named that Lord Mansfield finally declared: "The law of merchants and the law of the land is the same. A witness cannot be admitted to prove the law of merchants. We must consider it as a point of law." To this last very important principle even the courts had come somewhat slowly. In 1689, Ventris, one of the justices, says: "You here depend on the law of merchants, which at present, I think, we ought to take notice of." A few years afterward Holt and Eyre said that "the law merchant is *jus gentium*, and we are to take notice of it." And not long before Mansfield's time, it was positively declared that "the custom of merchants, or law of merchants, is the law of the kingdom, and is part of the common law." The importance of this rule depends upon the difference in law between a custom which is so general that it has the force of law, and one which applies only to a contract made under it because it is to be considered as a part of that contract. This distinction is not merely technical, for it rests upon the most substantial foundations. If two men enter into a contract which relates to some certain subject matter, and upon this an action of law begins which can be determined only by a construction of the contract, one of the parties may insist that it shall be construed in a certain way, because a custom exists in reference to that subject matter and that kind of contract, which gives it that meaning and effect. But, to make out this case, he must prove that this custom not only exists, but is so general, so old and well established, and so widely known and recognized, that a jury may believe as a matter of fact that the custom was in the minds of the parties at the time they made their contract, and that they made it in conformity with custom. The reason and justice of this rule are obvious. If two persons make a contract in the English language, they would of course be generally bound by the common meaning of the words they use. But it would be extremely unjust to permit one of them to hold the other to this common meaning,

if it could be shown that they and their neighbors dealing in such matters had uniformly, for many years, made similar contracts and construed them in practice in a certain way. Then this special custom would control the general rules of language. Very many cases have been decided on this ground. Thus, in England, a party agreeing to leave in a warren 10,000 rabbits, was held bound to leave there 12,000, because it was proved to the satisfaction of the jury that, as to rabbits, and in that neighborhood, the words one thousand meant 1,200. (3 Barn. and Adol. 728.) So in New York, where one promised to pay 12 shillings per day for every man employed in a certain business, and some of the men worked 12½ hours within the 24, it was held that the employer must pay 15 shillings for such a day, because a custom was shown, applicable to that kind of work, of considering 10 hours in 24 a day's work. (5 Hill, 437.) But it is a very different thing when the question is whether a custom exists, so general as to be a part of the custom of merchants, or of the law merchant, or of the law of the land. Thus, a man promises, by his note in writing dated Jan. 1, to pay to some one \$1,000 in 3 months from date. The general law says that the money must be paid on the 1st of April. But a custom comes in, which has, after ages of general acknowledgment and practice, acquired the force of law, and this custom adds 3 days to the 3 months, and the money is not due until the 4th of April. And then another custom comes in, which by the same means has acquired the same force, and the effect of this is, that if the 4th of April falls on Sunday or any legal holiday, the money is due on the 3d. The practical difference between these two things is this. In the two cases cited of the rabbits and the days' work, whoever relied upon the custom was bound to prove conclusively to the jury its existence and recognition, as a matter of fact; and if it were so proved, the court would instruct the jury as to the legal effect of the fact thus proved. This legal effect would be only that these two persons would be bound by the construction put upon the words by the custom under which they used the words, in the same way in which they would be bound if they had expressly defined those words as having that meaning. But in the other case, no proof would be offered to the jury, nor would the court permit them to listen to any evidence about it. The only question would be, what is the law, not for this bargain only, or for these parties only, but for all parties and in reference to all similar bargains? But it is the duty of the court to know the law, and it is their exclusive function to determine the law, and to declare it to the jury, whose duty it is, in civil cases certainly, to receive and obey the instructions given to them. But then it may be asked, how could this law merchant, which is by theory a mass or system of these customs, become known to the courts? None of these laws or rules were ever enacted, except, in

some instances, after they had acquired the force of law, and it was thought desirable to give them more precision and uniformity. Of few of them is the origin known, either as to time, or parentage, or authority. How then came they to be law? The answer is not difficult if we keep in mind the distinction between a question of fact and a question of law. For the want of remembering this distinction, there is a seeming antagonism in the cases on this subject. Thus, in 1760 the court of king's bench said: "The custom of merchants is part of the law of England; . . . if there be a doubt about the custom, it may be fit and proper to take the opinions of merchants thereon." And in 1765 Lord Mansfield, chief justice, says: "A witness cannot be admitted to prove the law of merchants." But the contradiction between these two principles is apparent only, and both of them are unquestionably sound. Mansfield means that no witness can be admitted to prove to a jury what the law merchant is; it can no more be allowed than it would be to prove in this way the law of real estate or any other branch of law. But if the court are themselves uncertain as to what the law merchant is, they will hear evidence, authority, and argument upon the subject, and ascertain the existence or character of the customs which compose it, as well as they can. Lord Mansfield was in the constant habit of ascertaining from "the city," as the phrase was then, or from "the Trinity house" (a board consisting of eminent merchants), what their customs were; and it was by these means that he laid the foundations, to say no more, of some of the most important departments of the law merchant.—In the United States the principle which governs the courts in relation to this subject is perfectly well settled. They will hear arguments and listen to citations of competent and pertinent authority upon any question of the law merchant, precisely as upon any other question of the law of the land. But when they decide that any rule enters into and forms a part of the law merchant, it has exactly the same force as any other rule of law.

LAW OF NATIONS, according to Mr. Wheaton, "may be defined as consisting of those rules of conduct which reason deduces, as consonant to justice, from the nature of the society existing among independent nations, with such modifications and deviations as may be established by general consent." International jurisprudence is a science of modern origin. In its present sense the law of nations was quite unknown to the two great states of antiquity. In Greece the amphictyonic council bore in some sort the character of an international tribunal, but it concerned itself chiefly with the internal affairs of the members of the league; the few relations which Greece maintained with foreign nations were defined by special compacts, and the general principles of right were rarely invoked in their adjustment. A nicer sense of international obligation was early evinced by

the Roman state. The *collegium fetialium* is said to have been introduced among the religious orders of Rome by Numa Pompilius. It was the office of these *fetiales* not only to perform the ceremonies which attended a declaration of war, but also to arrange truces and to conclude peace. They performed the sacrificial rites with which alliances and treaties were solemnized, were intrusted as the representatives of the state with their enforcement, and guarded the security of foreign ambassadors at Rome. Indeed, Niebuhr expressly styles them "judges of international law." The rules of their procedure in these various functions constituted the *jus fetiale*; but though the order continued to exist until the time of the emperors, the *fecial* law had been in the insolence of conquest often disregarded, and with the world-wide extension of the empire it had necessarily fallen into disuse. The works of Cicero, Sallust, Livy, and other writers of the best age of Rome, do indeed contain allusions which imply a recognized law of nations; yet it is certain that the Roman law, as it existed at the dismemberment of the empire of the West, embodied no system of rules for governing the intercourse of states, or for deciding questions of right which might arise between them.—During the middle ages, the pope was often the judge and arbitrator in the affairs of nations. His authority reached its height when Alexander VI. presumed to parcel out the new world to Spanish and Portuguese princes. The doctrines involved in the papal grant were supported by the jurists of Bologna, but their reasonableness was denied by a Dominican monk of the time, Franciscus à Victoria, professor in the university of Salamanca, who published in 1557 a collection of dissertations entitled *Relectiones Theologicae*. Of these the 5th, *De India*, contested the validity of the papal pretensions; and the 6th, *De Jure Belli*, discussed exclusively the law of war. These essays are perhaps the earliest works written in the spirit of the modern international jurisprudence. Grotius mentions them in his *Prolegomena*, but includes them among the productions which, "whether composed by theologians or doctors of law, had, in the discussion of the laws of war, alike mingled and confounded natural law, the divine law, the civil and the canon law, and the law of nations." In 1581 Balthasar Ayala composed a treatise (*De Jure et Officiis Bellicis*) which Mr. Hallam considers the first systematic one upon the practice of nations in the conduct of war. The honor of being the founder of the science of the law of nations has also been claimed for Albericus Gentilis, a native of Ancona. Gentilis became professor of civil law at Oxford, and attained high rank as a civilian by his works upon the Roman jurisprudence. As advocate of the Spanish embassy in the prize court at London, his attention was directed to questions of international rights; his most remarkable work upon topics of this nature was an essay upon the law of war.—In 1625 ap-

peared at Paris the celebrated treatise *De Jure Belli et Pacis*, by Hugo Grotius. "Grotius was," says Sir James Mackintosh, "without dispute, the first to give a new form to the law of nations, or rather to create a science of which only rude sketches and undigested materials were scattered over the writings of those who had gone before him." Mr. Hallam says that the publication of the book marks an epoch in the philosophical, and it may be said in the political history of Europe. It was very early translated into various European languages, and great jurists made it the subject of elaborate commentaries. In 1656 it was made the text of lectures on public law in the university of Würtemberg, and in 1661 a professorship was created in Heidelberg for expounding the law of nature and of nations from the writings of its author. The treatise *De Jure Belli et Pacis* is not limited to the law of war and of peace; it embraces also a view of the general principles which should govern the intercourse of nations. In the Roman law, the phrase *jus gentium* was not always used in an exact and specific sense, but it generally signified what modern writers have called the natural law, viz., the principles of right which are dictated by reason, and are common to all men alike. The *jus gentium* might assume the form of positive enactments, and then it formed an element of the *jus civile*, or municipal law of the state; or, if regarded as the basis and rule of the dealings of states with each other, it signified what is now called international law, or *jus inter gentes*. It was the object of Grotius to show that nations are governed by a law distinct from the natural law, to wit, by a code or body of rules founded indeed in the law of nature, but proceeding immediately from universal consent. "Those right deductions," he says, "which proceed from the principles of reason point to the law of nature, while those which proceed from common consent proceed from the law of nations." Pufendorf, who was invested in 1673 with the professorship of public law at Heidelberg, rejected the distinction which Grotius had drawn between the law of nature and the law of nations; he denied that the latter was founded upon express consent, but considered it merely the law of nature applied to nations; he maintained, therefore, that the customs and usages which nations observe in war have no legal obligation in them, and consequently that, unless they are directly deduced from the law of nature, they may be rejected at pleasure. Wolf, who represented rather the school of Grotius than that of Pufendorf, admitted with the latter and with Hobbes that, as aggregate bodies of individuals, nations must be in some degree subject to the law of nature, yet maintained that, in their collective capacity, nations acquire a new character and being, different from that of the individuals of whom they are composed; therefore, in its applications to societies of men, the law of nature must undergo

some changes and modifications, and thus is derived the voluntary law of nations. Vattel, a disciple of Grotius, assents to this doctrine of the latter, and develops still further his conception of the law of nations. There is an internal, necessary law, he says, resting upon the natural law or dictates of conscience, and therefore immutable; and there is an external, conventional law, which admits deviations from the former, when these involve an invasion of perfect rights. Finally, according to Vattel, the voluntary law, founded on presumed consent, the conventional, framed by express consent, and the customary, proceeding from the tacit consent of nations, compose the positive international law.—The sources of international law are, according to Grotius, natural law, divine law, customs, and special compacts: *natura ipsa, leges divinae, mores, et pacta*. In the celebrated reply made by the British government in 1758 to a Prussian state paper, the law of nations is said to be founded upon justice, equity, convenience, and the reason of the thing, confirmed by long usage. The principle of national justice, founded upon the laws of morality, is, then, the basis of the positive law of nations, that is to say, of the treaties, conventions, and usages which compose it. It is the office of right reason to apply this natural law of equity to the circumstances of each case; and it is the art of applying this law, according to justice and guided by reason, which renders international jurisprudence a particular science. Treaties and usages offer evidence of the general consent of nations, and are important sources of the law. The customary law of nations is further expressed in manifestoes and declarations of war and in the decisions of prize courts. Finally, the concurrent testimony of the great writers upon the science, and the written opinions which official jurists give to their governments, are further evidence and depositories of the law of nations.—States are the proper and immediate subjects of this national law. A state is defined by Phillimore as "a people permanently occupying a fixed territory, bound together by common laws, habits, and customs into one body politic, exercising, through the medium of an organized government, independent sovereignty and control over all persons and things within its boundaries, capable of making war and peace, and of entering into international relations with other communities." The sovereignty of a state depends upon its existence *de facto* as a state; and until this is recognized by other nations, the state enjoys no share in international rights. When once, however, it is admitted into the society of sovereign states, it is the equal of each of these. States may combine and form a confederacy, in which each retains its independent power and sovereignty, or may form a federal government or composite state, which alone is the sovereign power.—It is the clear right of every sovereign state to maintain its political integrity in the society of nations. It may, therefore, justly

assert its independence of and its equality with all other sovereign states, and by all the modes permitted in the practice of nations it may confirm its power and extend its domain, either by the acquisition of new territory, the extension of its commerce, or the development of its internal sources of wealth. All these rights presuppose that of self-preservation. The state may, then, to this end, form alliances, provide land and sea forces, build fortifications, or employ any other usual means for its defence. With these measures other powers have no right to interfere, unless they assume an aggressive character, and seem to threaten the security of such states. Thus a sudden and extraordinary increase of armaments would furnish good reason for demanding an explanation of the object of such warlike preparations. Further, by virtue of its independence, every sovereign state may adopt whatever form of government and whatever political institutions it may prefer, free from the control of any foreign power. Still each state is to remember that all other sovereign states are its equals, and therefore that it may not, by any measures of its private legislation or policy, virtually invade the sovereignty of others. When in 1792 the French national convention declared that it would render aid to all nations that might wish to recover their liberty, and ordered the decree to be printed in all languages, Great Britain was regarded as justified by the law of nations in treating the resolution as a declaration of war against all nations.—Another clear right of every sovereign state is that of exclusive property in its territory, and therefore of complete inviolability. This right is derived either from conquest or from occupancy, confirmed, as in the case of private individuals, by the right of prescription; or it may rest upon express treaty or conventions with foreign states. As against other powers, the right to territory is exclusive; in respect to its own subjects, the right is paramount, and constitutes what is called the state's right of eminent domain. Mere discovery by the subject of a nation does not give title to his sovereign, unless the sovereign commissioned him to this intent, or subsequently confirmed his claim of discovery by adopting it. Much too depends in respect to right of acquisition upon occupancy. Therefore, in the case of newly discovered lands, not only is some formal act usually considered necessary in taking possession, but the right will hardly be protected and confirmed without use and settlement of the territory. But how far the territorial sovereignty shall extend, even after a settlement, gives rise to very difficult questions of international law. These principles received very ample discussion in our conventions and treaties with Great Britain concerning the north-western coasts and territory.—The state's exclusive jurisdiction extends of course over all rivers and lakes which are entirely enclosed within its boundaries. But it is difficult to determine rights when a river forms the boundary between or flows through

the territory of different states. When a river forms the limit of conterminous states, the presumption is that both of these have the right of navigation in the whole river, though, according to the Roman law, the middle line of the river forms the strict limit between the two. But in respect to rivers which at any part of their course lie within the territory of a single state, the strict rule is, that the right of navigation here, for those even who border upon it higher up in its course, is but an imperfect one, and the right of a passage way may be conceded or withheld as it may seem good to the state through whose domain the river flows. The strictness of this rule is maintained by Great Britain against our government in regard to the St. Lawrence. The United States have claimed the right of navigation down the river to the ocean, in virtue of their proprietary right in the great lakes through which it passes. By the treaty of 1854 Great Britain concedes to this country the privilege of navigation, subject to revocation, but still, as it has always done, denies our natural right to enjoy it. Over straits, or those narrow passages which communicate between two seas, a state may possess an exclusive control if both shores belong to her, and if the navigation of either sea to which they lead be subject to her exclusive power. Thus, while the Black sea belonged exclusively to Turkey, and the Bosphorus and Dardanelles were both bordered by her territory, the jurisdiction over these was rightfully claimed by the Porte. But when the navigation of either of the seas is free, the right to control the straits must be modified by the necessities and rights of commerce. By the treaty of Paris of 1856, the Black sea was declared neutral, and its waters and ports are now open to the commerce of all nations. A state cannot be completely secure without extending its authority over some portion of the waters which wash its coasts. By the general law of nations, which may however be modified by unquestioned usage or by special compacts, this authority reaches over a marine league, or the distance measured by a cannon shot from the shore at low tide. For the prevention of frauds upon the revenue laws in time of peace, or to prevent war ships of a belligerent power from cruising so near the coast as unfairly to menace homeward or outward bound ships, it is the practice of nations, certainly of Great Britain and the United States, to exercise jurisdiction for these purposes within 4 leagues from the coast. Over all bays and gulfs, and those parts of the sea which are included within lines drawn between headlands, the state has unquestioned right. The open ocean is the common territory of all nations.—Finally, it is an incident of sovereignty that the state may exercise exclusive jurisdiction over all persons within its limits, whether they be its own subjects or those of foreign states. It has an undoubted right to the service of its citizens, the right to forbid their departure (a power which is actively exercised by some European

states), and the right to recall them from foreign countries. It may dismiss foreigners, or by an act of naturalization adopt them into its citizenship. From the principle of exclusive sovereignty it also follows, that the laws of every state govern not only the persons who dwell in it, but control all property, real and personal, within the territory, and all acts done and contracts concluded there. The state concedes no proper force to foreign laws, yet upon the principle of reciprocity, complete or partial, or upon considerations of equity or international comity, they may be recognized and allowed their effect. It is plain that the tenure, the title, and the modes of conveyance of real property must be uniformly governed by the laws of the country where it is situated. Hence it is a rule of the English and American law that a deed or will executed in a foreign country, or in another state of the Union, must be executed with the formalities which are required in that state in which the land lies. On the continent, however, a different rule is admitted, and a deed or will, properly executed where it is made, may dispose of real property lying in another jurisdiction, no matter what forms of execution may be demanded there. As to personal property, it is now the well settled rule of international jurisprudence, that the law of the owner's domicile must govern the succession to it wherever the property may be. The municipal laws of states may sometimes have an extra-territorial effect, so far, for example, as to determine the civil and personal capacities of their citizens while residing in foreign countries, or in defining the obligations of contracts made within their territory, but sought to be enforced in foreign jurisdictions. But in neither case will the foreign state resign its control over property lying within its limits, or admit the operation of other laws than its own, when that would prejudice the rights or interests of its citizens, or in any degree infringe its own sovereign authority. The jurisdiction of a state extends also so far as to exempt its sovereign, or his ambassador, or his fleets and armies, from the operation of the laws of a country where they may be. The same exemption extends to its fleets and armies, when they are suffered to pass through a foreign state, and generally to its public ships. These exemptions rest on the promise implied in the comity of nations that no state will exercise its jurisdiction over that which most intimately affects the sovereignty of another. Special conventions may concede to consuls an authority over their countrymen in the foreign states in which they reside. In Christian countries this authority is usually limited to such civil matters as those arising out of disputes between ship masters and seamen, and to the ministerial acts of attesting contracts and protests, and authenticating other mercantile instruments. In criminal affairs the consul's jurisdiction is limited to the infliction of fines, and in grave cases it is his duty to collect evidence, and send the accused to his own

country for trial. In barbarous countries our consuls often possess complete and exclusive jurisdiction over matters in which their countrymen are interested.—Except as it is modified by treaty, the judicial power of every state is coextensive with its territory. It reaches all offences committed against its laws, whether by its own subjects or by aliens, and whether within its landed domain or on board its ships, public or private, upon the high seas, or on its public ships in foreign ports. It extends to the punishment of piracy, for pirates are the common enemies of mankind, and the offence is committed against all nations alike. If an offender against the laws of one state has escaped within the jurisdiction of another, the former may demand the surrender of the criminal. Some publicists of eminent authority declare that the state thus called upon is bound to make the surrender; yet others deny that the obligation is a perfect one, and in fact it is always defined by the express terms of treaties. Murder, rape, arson, perjury, embezzlement by public officers, and the fabrication and circulation of counterfeit money, are usually enumerated as causes of extradition. In Europe fraudulent bankruptcy is generally included. Neither England nor the United States will admit the extension of such treaties to political refugees.—Though sovereign states are equal, so far as essential rights are concerned, yet in respect to titles and similar distinctions, some of them may assert a preëminence over others. Thus, in virtue of the "royal honors" which every empire and kingdom in Europe enjoys, these powers may claim certain exclusive privileges of a commercial nature, and take precedence of states which are inferior in dignity. To avoid contests or questions of superiority, the order of signature to public instruments has been often determined by lot, by the use of the alphabet, or by the *alternat*, by which latter mode the representative of each government signs first in the order the copy intended for his own government.—Every independent power possesses the right to send and to receive embassies. In monarchies the prerogative usually resides in the sovereign. In composite states, like the United States, it is reserved generally to the federal government, that is, to the supreme executive power. By grant from their respective governments, the right of embassy has been often exercised by the governors of great colonial states. Thus, the British governor-generals of India, the Spanish governors of the Philippines, and the Dutch governors of Java have possessed the right; so have the Dutch, French, and British East India companies. A merely rebellious colony cannot assert a *jus legationis*; but when rebellion has grown to war, and rebels have become enemies, powerful enough to maintain their hostile and independent posture, then they become capable of new rights, including that of negotiation and therefore of embassy. Yet, as to indifferent states, the international position and right of the revolted colony depends on their recognition of it. The state

which has the right to send embassies has also the right to receive them, though there is perhaps no perfect obligation in either case, under the positive law of nations. Phillimore says that a state is bound to give audience to an ambassador, and, except under extraordinary circumstances, to receive him for that purpose into its territory and at its court; though he adds, it may make conditions as to the nationality of the minister, refusing, for example, to receive one of its own subjects. The privilege of continuous residence rests in comity, and is not matter of right. Public ministers are commonly divided into three classes. The first of these comprises ambassadors ordinary and extraordinary, as the mission is limited or indeterminate in point of time, and papal legates and nuncios, ordinary and extraordinary. These all have the representative character, and are entitled to the same honors which the sovereign power would itself receive. Diplomatic agents of this rank can be sent only by crowned heads, the great republics, and other powers which enjoy royal honors. The second class includes envoys ordinary and extraordinary, ministers plenipotentiary, and internuncios of the pope. In the third class are ranked *chargés d'affaires* accredited to ministers of foreign affairs, and consuls, such as those maintained in the Barbary states by the European powers, who bear credentials as public agents of their governments. Ministers resident accredited to the sovereign are sometimes ranked as a separate class between *chargés d'affaires* and envoys and ministers plenipotentiary. The public character of an ambassador at a foreign court is recognized upon the production of his letters of credence. In the case of a *chargé d'affaires*, these are addressed by one minister to another. In the case of ministers of all the higher ranks, they are addressed to the sovereign. The full power which authorizes the diplomatic agent to negotiate is in modern times given separately from the letter of credence. During his residence the public minister is entitled to perfect inviolability, and to exemption from the local civil and criminal jurisdiction. This immunity extends also to the members of his household, whether they belong to his own family or to the diplomatic corps, and also to his house and personal property. A consul cannot claim these privileges of exemption which are accorded to public ministers. So far, indeed, as he is impressed with a public character his right extends, but ordinarily he is subject to the local tribunals, like any other resident foreigner. A minister's public mission is terminated by his recall, or by the decease or abdication of his own or of the sovereign to whom he is accredited; by his own declaration to this effect, when on account of any infraction of the law of nations he thinks it his right to do so; by his dismission from the court at which he is residing; or by the final accomplishment or failure of the object of his mission.—International rights are often defined by specific con-

ventions. As in respect to embassies, so in regard to treaties, the power to make them resides generally in the supreme executive authority. But they will be exactly determined by the fundamental law of the state. In virtue of their full powers, diplomatic agents may sign treaties, but generally these are not binding upon their governments until they are ratified by the supreme authority. Under the constitution of the United States treaties become obligatory only with the advice and consent of the senate. But once ratified in prescribed form, the treaty is binding upon the contracting states, no matter what legislative measures may be required in order to carry it into effect. The constitution gives to the president and senate the treaty-making power. Congress cannot defeat this provision by refusing to pass appropriation bills or other measures, when the engagements entered into are within the constitutional limits. This question has been much considered; and whatever may be the exact legal right, the power of congress to withhold laws required by treaties has been asserted, and their moral right to exercise this power, when they deem the treaty to be in derogation of the sovereign rights or essential interests of the country. Treaties in the proper sense of the word, like those of alliance or amity, of commerce and navigation, exist only so long as the parties exist who made them. They expire, therefore, if either loses its sovereignty, or if circumstances change so much as to make the treaty utterly foreign to the existing condition of things. They may also be annulled by the outbreak of war, or expire by their express limitation. Treaties of alliance may be either offensive or defensive, as they engage to render aid, aggressively or defensively, against other powers. In the event of hostilities, the contracting powers become allies against the common enemy; but not so when a state contracts generally to furnish to another a certain definite succor by war supplies in case of war. Apart from its particular engagements, such a state is neutral. Guaranties are frequent forms of international compacts. Agreements to defend the particular constitution of a country against every aggression, or to secure the liberties of a single state during war between other powers, are instances of these obligations.—Sovereign states being equal, it follows that there can be no supreme tribunal of appeal. Except therefore by submission of their wrongs to arbitration, nations can have no redress for them except by resorting to force. When, then, differences have arisen, and they cannot be composed by negotiation or other peaceful means, the injured state may employ the forcible measures of retaliation, of reprisals, of embargo or the sequestration of the goods of the offending power, or, finally, of war. Embargoes or sequestrations are often declared as preliminary measures to active hostilities. A declaration of war has a retroactive effect, and the property already seized is placed upon the same footing as that

taken during the war. Reprisals are general or special. They are general when a state authorizes its subjects to capture the goods and attack the subjects of the offending power, wherever they may be found. In the modern practice of nations, general reprisals are deemed synonymous with war, and are indeed the initiative step to hostilities. When wrong is done to particular individuals in time of peace, and justice is plainly refused or unreasonably withheld, letters of marque may be issued to the parties, or a public ship be commissioned to avenge their wrong. These are instances of special reprisals. The ownership of the property taken is acquired, so far as it is necessary to satisfy the debt, or otherwise compensate for the injury committed; the surplus must be restored to the government of the subject against whom the right has been exercised. In modern times letters of reprisal are chiefly confined to goods, and would hardly be granted to a private individual during a general peace.—An open contest between sovereign states is called a public war. It may be general, extending to all persons and places in the two states, and is then called a perfect war; or it may be imperfect, as it is limited in these respects. Once it was necessary to declare war formally before proceeding to hostilities; now it is customary to declare simply that war exists. Forthwith, all enemy property is, by the law of war, subject to confiscation; thus, debts due from one state to the other may be sequestered, or property lying within the territory of either be seized as prize of war. But in the exercise of international comity these rights are not usually enforced. The obligation of debts is, as it were, suspended during war, but the right of recovery revives with the peace. In the Russian war, England, which has always maintained the stricter rule respecting enemy goods, permitted Russian ships to depart from her ports, and allowed those which were on their voyage thither to enter, discharge their cargoes, and sail without molestation. All commerce between the subjects of belligerent states is interdicted by the laws of war; yet for good reasons either power may, by express license, permit a partial intercourse. Very large indulgence was shown in this respect, and for the interests of commerce, by England in the war with Russia. Provided only that British ships did not enter ports in possession of the enemy, the commerce with the enemy, though indirect, might still be carried on. The interdiction of intercourse between belligerents extends not only to commerce, but to every species of contract, such as insurance of enemies' property, the drawing of bills on subjects of the enemy, or the remission of funds to them by bills or money. So too partnerships existing between the subjects of hostile states are absolutely dissolved by a declaration of war. In the language of Lord Bacon, war is the highest trial of right. It has also been defined as an exercise of the international right of action. Its end and object is to compel justice from an enemy, and it must be prose-

cuted with steady regard to that end. All measures of force which must be employed to attain it are justifiable, but no others are permissible. Therefore wanton waste of the enemy's country, or wanton destruction of the property or lives of his subjects, are in the modern practice of nations unjustifiable and illegal. Generally, all those who are engaged in the merely civil affairs of life are exempted from the direct effects of war, and only those who are expressly or implicitly authorized by the commands of the state to represent its sovereignty are ordinarily subjected to hostile attack. Property at sea, however, makes an exception to the usual indulgence shown to the goods of an enemy; for ships and their cargoes upon the ocean are liable without exception during war to seizure and confiscation, and even if captured by uncommissioned cruisers are condemned as good prize of war. Privateering too, though admitted by the present law of nations to be a legitimate mode of destroying the commerce of the enemy, is yet held by some states to be inconsistent with the modern and more liberal modes of warfare. By the United States, the practice of commissioning private armed vessels in time of war is justified and maintained, because it renders our large mercantile fleet serviceable in contest with powers who are our superiors in naval force. The validity of all claims of prize and capture is determined by the prize courts of the captor's country. These may sit either within their proper territory or in that of an ally, and exercise jurisdiction over captured property lying either in their own ports or in those of an ally or of a neutral. They possess a jurisdiction, in respect to captures made by subjects of their sovereign, exclusive of the tribunals of all other nations, excepting only in cases when the capture was made upon the territory of a neutral, or by vessels fitted out within a neutral's limits. These cases involve an invasion of the neutral's sovereignty, and must be adjudicated in his court. The decisions of prize courts are final and conclusive upon rights of property involved; and if their judgments work injustice to the subjects of other powers, their claims to reimbursement must be adjusted between the sovereigns of their respective states.—Either for ordering the general conduct of war, or for lightening its rigors, belligerent states may enter into general or special conventions. The former are made often at the beginning of the war, and lay down the rules to be mutually observed in the war, respecting the exchange and redemption of prisoners, concerning passports, safe-conducts, and similar matters, or agree to abstain from certain modes of warfare, or from levying contributions on invaded territory. Particular conventions are made during war, and concern either truces or partial suspensions of hostilities or capitulations, that is, surrenders of particular forces or places. The power to conclude a truce is generally implied in the official character of every high officer, like a gen-

eral or admiral, but not the capacity to make a long or universal armistice; for that amounts to peace, which only a sovereign can make, and therefore it requires either the sovereign's previous special authority or his subsequent ratification. A truce is binding upon the two states whose officers conclude it, and they therefore are liable for every infraction of its terms, but not upon those to whom its existence has not been actually notified; and for the purpose of avoiding the mischiefs which may arise out of ignorance of the truce, it is usual to fix prospectively the time when it shall commence. While the truce lasts all warlike acts and preparations must entirely cease, though it does not hinder acts which are allowable in time of peace. But at the place to which the cessation of hostilities particularly applies, a belligerent may not do what he would be allowed to do at a greater distance. That is to say, one party must not take advantage of the temporary peace to perfect its measures of attack or siege, nor may the other repair breaches in its works, or introduce succors or reinforcements, or indeed do any thing which would have been impossible if active hostilities had continued.—No state is bound to take part in the wars in which other powers may be engaged. Yet, though the right to remain neutral be one of the clearest rights of its sovereignty, no independent state can retain the same complete independence which it enjoys in time of general peace. A state of war between some members of the society of nations imposes certain positive obligations and restrictions on all the rest. Except when it is bound to do it by previous treaty stipulations, the neutral state may not render assistance to either belligerent party in the prosecution of war, that is, it must not furnish arms, troops, ammunition, or the like, to either side; and further, in matters which do not directly concern the war, it must not refuse to one belligerent that which it grants to the other. On the other hand, if the state observe strictly the conditions of neutrality, it is entitled to perfect inviolability of its territory, and in other respects to complete immunity from the effects of war. Whether the neutral's exemption can be claimed absolutely for its ships, so as to protect the enemy goods which they carry, has given rise to one of the most vexed questions in international law. It has never been doubted that the neutral's public ships are exempt from all intrusion, and therefore that they cannot be visited and searched for enemy property. In respect to its private merchant ships, the practice of different nations has been widely diverse. By express conventions England has sometimes admitted the rule that "free ships make free goods," and, though admitting it again during the war with Russia, declared expressly that she only "waived" her right to seize enemy goods on board neutral vessels. Especially in its treaties, the United States has advocated the adoption of the rule. By the declaration signed at the congress of Paris in 1856 by the representatives of the chief Eu-

ropean powers, the principle that neutral ships may carry enemy goods has finally become established, it may be presumed, in the law of nations. The same declaration sanctions the rule that neutral property, except contraband, is not subject to capture though laden in enemy ships. General trade with belligerents is not interdicted by war. The single restriction imposed on commerce is, that it shall not supply either of the hostile parties with means for carrying on the war. A neutral must not carry goods contraband of war, nor bear despatches, nor transport troops to either of the powers at war. Contraband cannot be easily defined, though the proper criterion is, whether the goods be or not *usus bellici*; that is, whether the goods are peculiarly and specifically adapted to serve the uses of war. Contraband property is subject to confiscation by the captor. The strict construction of the principles of neutrality makes the carrying, perhaps even the selling of contraband property in the neutral's home ports, to be a violation of the neutral character. The United States maintain the contrary doctrine, that both such sale and carriage are consistent with neutrality, though during the transit the goods may be rightfully seized and confiscated. Further, the neutral must not send his ships to blockaded ports, for this would be an intermeddling directly in the war measures of belligerents. But the law of blockade is so strict, that to subject a neutral to its operation, the blockade must exist in point of fact; that is to say, there must be a squadron present, and strong enough to constitute an actual blockade of the port; the neutral must have had due notice of its existence, and must have been guilty of some clear act of violation, either by going in or coming out with a cargo laden after the commencement of blockade. Finally, the neutral must be ready to prove himself that which he professes to be, and his ships must therefore be subject to the exercise of the belligerent right of visitation and search.—When the objects of war are accomplished, peace must be reestablished. Generally this takes place upon the conclusion of a formal treaty of peace between the belligerent states. The power of making a peace is determined by the fundamental law of every state. Under our constitution the assent of the two houses of congress is essential to a declaration of war; but the president, with the consent of two thirds of the senate, may agree upon a peace. A treaty of peace takes effect from the day when it is ratified. Every act of force or violence subsequent to that is unlawful. Yet the party who is guilty of it is not criminally guilty, if he had no notice of the peace; and in the case of a capture under such circumstances, the captor's sovereign is bound to effect restitution of the property. So when a period has been fixed for the cessation of hostilities at a specified locality, and before the period has arrived, but with a knowledge of the peace, a capture has been made, the capture is void. The treaty puts an end to the war, and puts at rest for ever

the debated matters which were its cause. It leaves every thing in the state in which it finds it. Conquered lands and fortresses remain with the conqueror, unless otherwise stipulated. Generally, things which by the treaty are to be restored must be restored in the condition in which they were taken. Yet if a conqueror has rebuilt a town or fortress, and made it what it was before the siege, he should restore it in that condition; but any new works which he has added he may destroy. The particular peace restored by treaty may be broken by omitting to fulfil its stipulations, or by doing some act which contravenes them. The violation of one article is a breaking of the whole treaty, and ends the peace.—See "Elements of International Law," by Henry Wheaton, LL.D. (6th ed. by William Beach Lawrence, Boston, 1855); "Commentaries upon International Law," by Robert Phillimore, M. P. (in the "Philadelphia Law Library," 6th series, vols. x., xv., xxii.); "Two Lectures on the Science of International Law," by Travers Twiss, D.C.L. (London, 1856).

LAWES, HENRY, an English composer, born probably in Salisbury in 1600, died in 1662. About 1625 he became one of the gentlemen of the chapel to Charles I., and soon acquired a considerable reputation as a composer of music for masques and songs. His works are numerous and of unequal merit. Among the most successful was the music to Milton's "Comus," performed at Ludlow castle in 1634, the composer himself personating the "Attendant Spirit." Milton speaks of his strains as "sweetening every musk rose of the dale." Waller, many of whose songs Lawes set to music, Herick, and Phillips also speak of him in their verses as the great English composer of the day. Lawes continued in the service of Charles until the death of the latter, and at the restoration he composed the anthem for the coronation of Charles II.

LAWRANCE, JOHN, an American statesman and judge, born in Cornwall, England, in 1750, died in New York in 1810. He emigrated to America in 1767, settled in the city of New York, was admitted to the bar in 1772, and soon established himself in successful practice. An active patriot at the outbreak of the revolution, he served in the army throughout the war, first as aide-de-camp to his father-in-law Maj. Gen. McDougall, and afterward attached to the general staff as judge advocate general. In the latter capacity he conducted the proceedings of the court of general officers appointed to inquire into the case of Major André. On the termination of hostilities he returned to New York, where for many years he was engaged in a large and lucrative professional practice. In 1785-'7 he was a delegate to the congress of the confederation, but was superseded in 1788 in consequence of his advocacy of the adoption of the new federal constitution. He was a member of the state senate, when in 1789 he was elected the first representative from New York city in the first U. S. congress. He was a zeal-

ous and able defender of the measures of Washington, and throughout his public career was a political and personal friend of Hamilton. On the measures relating to the public credit and the national currency, to the neutrality of the United States as regards European belligerents, to indiscriminate foreign commerce, and to the promotion and security of all our commercial interests, he spoke with eminent comprehensiveness and foresight. He represented the city of New York in the second congress, upon the termination of which in 1794 he was appointed by President Washington judge of the U. S. court for the New York district. He accepted this office at the particular solicitation of the bar, in consequence of his knowledge of admiralty law and the increasing number of admiralty cases. He resigned it in 1796 upon being elected to the U. S. senate, of which body he was for a time president. He supported the measures of President Adams, upon whose retirement he resigned his seat, and withdrew to private life. He was twice married: in 1775 to Elizabeth, daughter of Gen. McDougall; and in 1791 to Elizabeth, widow of James Allen, Esq., of Philadelphia.

LAWRENCE, the name of counties in 10 of the United States. I. A W. co. of Penn., bordering on Ohio and watered by Beaver river and its constituents the Mahoning and Chenango; area, 360 sq. m.; pop. in 1850, 15,246. It contains limestone and valuable coal and iron mines. The surface is somewhat uneven and the soil fertile. The productions in 1850 were 205,620 bushels of Indian corn, 168,246 of wheat, 292,213 of oats, 22,025 tons of hay, 420,650 lbs. of butter, and 196,145 of wool. There were 10 grist mills, 4 saw mills, 8 iron founderies, 3 furnaces, 4 woollen factories, 6 tanneries, 2 newspaper offices, 40 churches, and 3,864 pupils attending public schools. The Cleveland and Mahoning railroad will pass through the county, and it is also traversed by a canal from Beaver to Erie. Capital, New Castle. II. A N. W. co. of Ala., bounded N. by Tennessee river, the Muscle shoals of which occur in this part of its course; area, 725 sq. m.; pop. in 1850, 15,258, of whom 6,852 were slaves. It has a mountainous surface and a good soil. The productions in 1850 were 815,114 bushels of Indian corn, 88,858 of oats, 70,786 of sweet potatoes, and 13,427 bales of cotton. There were 18 grist mills, 8 saw mills, 1 newspaper office, 30 churches, and 728 pupils attending public schools. The Memphis and Charleston railroad passes through the county. Capital, Moulton. III. A S. co. of Miss., traversed by Pearl river; area, 790 sq. m.; pop. in 1850, 6,478, of whom 2,929 were slaves. Part of the surface is occupied by pine forests. The soil is of various qualities. The productions in 1850 were 229,129 bushels of Indian corn, 14,281 of oats, 66,139 of sweet potatoes, 76,103 lbs. of rice, and 3,804 bales of cotton. There were 11 grist mills, 9 saw mills, 1 newspaper office, 17 churches, and 206 pupils attending public schools. The

Mississippi central railroad passes through the county. Capital, Monticello. IV. A N. E. co. of Ark., bordering on Mo., and drained by Black river and its branches; area, 1,800 sq. m.; pop. in 1854, 7,617, of whom 485 were slaves. It has a level or moderately diversified surface, with much fertile soil. The productions in 1854 were 408,607 bushels of Indian corn, 15,831 of wheat, 54,824 of oats, and 769 bales of cotton. Capital, Smithville. V. A S. co. of Tenn., bordering on Ala., and drained by small affluents of Tennessee river; area, 780 sq. m.; pop. in 1850, 9,280, of whom 1,162 were slaves. It contains valuable iron mines. The surface is chiefly table-land, and the soil is fertile. The productions in 1850 were 34,122 bushels of Indian corn, 50,457 of oats, 26,265 of sweet potatoes, 16,765 lbs. of tobacco, and 80,153 of butter. There were 20 grist mills, 6 saw mills, 1 newspaper office, 26 churches, and 1,200 pupils attending public schools. Capital, Lawrenceburg. VI. A N. E. co. of Ky., separated from Va. by Big Sandy river, and drained by the W. fork of that stream and by Little Sandy river; area, 205 sq. m.; pop. in 1850, 6,282, of whom 187 were slaves. Coal and iron are abundant. The surface is hilly and in many places well timbered, and the soil is of excellent quality. The productions in 1850 were 278,871 bushels of Indian corn, 80,398 of oats, 15,561 lbs. of wool, and 8,891 of tobacco. There were 2 grist mills, 2 saw mills, 11 churches, and 687 pupils attending public schools. Capital, Louisa. VII. A S. co. of Ohio, separated by the Ohio river from Va. and Ky.; area, 480 sq. m.; pop. in 1850, 15,246. It has rich mines of iron and coal, and beds of clay suitable for stone ware, and is the chief seat of the iron manufacture in the state. The surface is broken by sandstone hills, but the soil of the valleys is rich. The productions in 1850 were 188,418 bushels of Indian corn, 9,895 of wheat, 37,255 of oats, 27,102 of potatoes, and 1,082 tons of hay. There were 11 grist mills, 8 saw mills, 10 furnaces, 1 newspaper office, 13 churches, and 6,205 pupils attending public schools. The Iron railroad passes through the county. Capital, Iron-ton. VIII. A S. co. of Ind., watered by the E. fork of White river; area, 438 sq. m.; pop. in 1850, 12,097. The surface is undulating and well timbered, and the soil is fertile. The productions in 1850 were 838,238 bushels of Indian corn, 43,953 of wheat, 148,556 of oats, 36,697 lbs. of wool, and 2,746 tons of hay. There were 22 grist mills, 8 saw mills, 1 newspaper office, 24 churches, and 4,974 pupils attending public schools. The Louisville, New Albany, and Salem, and the Ohio and Mississippi railroads pass through the county. Capital, Bedford. IX. A S. E. co. of Ill., separated from Ind. by the Wabash river, and intersected by its tributary the Embarras; area, 560 sq. m.; pop. in 1855, 8,160. The surface is diversified, and is occupied partly by fertile prairies and partly by swamps. The productions in 1850 were 427,850 bushels of Indian corn, 15,582 of

wheat, 59,144 of oats, 1,926 tons of hay, and 12,617 lbs. of wool. There were 8 grist mills, 5 saw mills, 1 newspaper office, 18 churches, and 1,000 pupils attending public schools. The Ohio and Mississippi traverse the county. Capital, Lawrenceville. X. A S. W. co. of Mo., drained by Sac river and the head streams of Spring river; area, 578 sq. m.; pop. in 1856, 7,618, of whom 374 were slaves. It has a hilly and undulating surface and a good soil. Coal is found in the N. W. part. The productions in 1850 were 293,564 bushels of Indian corn, 19,488 of wheat, 68,687 of oats, 11,169 lbs. of wool, and 29,678 of butter. The county contained 1 grist mill, 1 saw mill, 9 churches, and 680 pupils attending public schools. Capital, Mount Vernon.

LAWRENCE, a city and the 3d shire town of Essex co., Mass., situated on both sides of the Merrimack river, here crossed by two bridges, about 26 m. from its mouth, 26 m. N. from Boston, and 10 m. N. E. from Lowell; pop. in 1857, about 16,500; in 1860, 18,500, the decrease being consequent upon the suspension of the Bay State mills, the machine shop, and other enterprises. The Spicket river crosses the N. portion of the city and falls into the Merrimack, and the Shawshen forms the S. boundary of the township. Near the centre of the N. section of the city is a common embracing 17½ acres, and ornamented with a fountain, the water for which is supplied by a reservoir on Prospect hill, an eminence 140 feet high. The principal public buildings are the city hall, the factories, schools, &c. There are 14 churches (3 Baptist, 2 Congregational, 1 Episcopal, 8 Methodist, 1 Reformed Presbyterian, 1 Second Advent, 2 Roman Catholic, 1 Unitarian, and 1 Universalist). The city has a young men's Christian association, a Franklin literary association, a Lawrence provident (benevolent) association, a savings bank, 2 banks of issue and discount with an aggregate capital of \$600,000, a mutual insurance company, 2 loan and fund associations, a high school, 2 grammar schools, 9 middle schools, 18 primary schools, and 1 mixed school. The aggregate number of children attending schools is (1860) 2,407. The system is controlled by a school committee of 6 members and a superintendent. Three weekly newspapers are published. The industry of Lawrence is chiefly devoted to cotton manufactures. Water power is collected by a dam across the Merrimack, built in 1845-'8 at a cost of \$250,000. It is a granite structure 1,629 feet long, 35 feet thick at the base, 12 feet thick at the crown, and 40½ feet high at the deepest part of the river. The basin formed by it extends back 9 m. to Hunt's falls at Lowell. At the source of the Merrimack in Lake Winnipiseogee there is also a dam with locks for regulating the supply of water to Lowell and Lawrence, and providing against droughts. The distributing canal, 1 m. long, 12 feet deep, 100 feet wide at the head and 60 feet wide at the mouth, is on the N. side of the river; its cost, including locks,

was \$200,000. The principal mills now in operation are as follows: the Atlantic, for cotton, capital, \$1,800,000, with 1,200 looms, 45,000 spindles, and 1,200 operatives; the Washington (formerly known as the Bay State mills; its proprietors failed in 1857, and a new company was organized under the above title), for shawls, plaids, cassimeres, fine woollens, and felt carpets, capital \$1,500,000, with 650 looms, 93 carding machines, and 2,800 operatives; the Pacific, for printed muslins, cotton, and cotton and wool mixed, capital \$1,000,000, with 1,000 looms, 50,000 spindles, and 1,000 operatives; and the Lawrence duck mill, capital \$300,000, with 60 looms, 460 spindles, and 250 operatives. The buildings formerly occupied as the Lawrence machine shop are now being refitted as a new cotton factory, called the Everett mills. Among the other manufacturing establishments are the charter paper mills, capital \$50,000, employing 50 hands in making paper hangings; 3 saw mills; 2 grist mills; a gas company, capital \$100,000; a machine shop and foundry; a veneering mill; and a railroad car repair shop. The Pemberton cotton mill, built in 1853, and employing 950 hands, had 650 looms and 29,000 spindles, and consumed when in full operation 60,000 lbs. of cotton per week. On Jan. 10, 1860, while the machinery was in motion, the main building suddenly fell without warning, and a conflagration soon afterward broke out in the ruins. Of 700 persons in the building at the time, 77 were killed and 184 injured, of whom 14 subsequently died. The cause of the disaster was the faulty construction of the iron pillars which supported the floor timbers, and lack of adhesive power in the mortar. The mill is now being rebuilt. The valuation of property in the city is \$10,249,008, of which \$7,636,498 is real estate; in 1856 it was \$10,483,725.—The town of Lawrence was incorporated in 1847, its territory being taken from the towns of Methuen and North Andover. The village had previously been known as Merrimack or New City, and it took its present name in honor of its principal founders, the Lawrence family of Boston, the chief members of the Essex company, which had been chartered shortly before for the erection of the dam and other manufacturing purposes. It was made a city in 1858. It has railroad communication with Boston, Lowell, Salem, &c., being the point of junction of the Concord, Manchester, and Lawrence, the Boston and Maine, the Lowell and Lawrence, and the Essex railroads.

LAWRENCE, a city and the capital of Douglas co., Kansas, situated on the right bank of the Kansas river, 70 m. from its mouth by the windings of the stream and 48 m. in a straight line; pop. in 1860, about 2,500. It is built on a rolling slope, and contains about 400 buildings, some of which are of brick or stone. It has churches belonging to the Baptists, Congregationalists, Episcopalians, Methodists, Presbyterians, and Roman Catholics, a newspaper establishment, a saw mill, a grist mill, a machine

shop, several coach and wagon factories, a tannery, a soap and candle factory, a brewery and distillery, and 6 hotels. A university is being erected, and there are schools and an academy. Value of taxable property in 1859, \$511,896. The city was founded in 1854 by settlers from the eastern states under the auspices of the emigrant aid society of Massachusetts.

LAWRENCE, ABBOTT, an American merchant and statesman, born in Groton, Mass., Dec. 16, 1792, died in Boston, Aug. 18, 1855. His ancestors were people in humble circumstances, who had for 150 years been settled in Groton as cultivators of the soil, and his father, Major Samuel Lawrence, served with credit in Prescott's regiment at Bunker hill, and in many of the severest battles of the war of independence. For a brief period in his boyhood he attended the district school and the academy at Groton, and in his 16th year went to Boston, with less than \$8 in his pocket, and was bound an apprentice to his brother Amos, then recently established there in business. In 1814 he became one of the firm of A. and A. Lawrence, which for many years conducted a prosperous business in the sale of foreign cotton and woolen goods on commission. Subsequent to 1830 they were largely interested as selling agents in the manufacturing companies of Lowell, and in the latter part of his life Abbott Lawrence participated extensively in the China trade. At the same time he took a deep interest in all matters of public concern, and was at an early period of his life a zealous advocate of the protective system. In 1834 he was elected a representative in the 24th congress from the Suffolk district, embracing the city of Boston, and as a member of the committee on ways and means manifested considerable financial ability. He declined an election to the next congress, but served for a brief period in 1839-'40. In 1842 he was appointed a commissioner on the part of Massachusetts on the subject of the northeastern boundary; and in the opinion of Mr. Nathan Appleton, his biographer, who was then in congress and in daily confidential communication with him, "to Mr. Lawrence, more than to any other individual, is due the successful accomplishment of the negotiation, which resulted in the important treaty of Washington." He took an active part in the presidential canvass of 1844 as a supporter of Mr. Clay, as he had done 4 years previous in the election of Gen. Harrison; and in the whig national convention of 1848 he was a prominent candidate for vice-president, lacking but 6 votes of a nomination. He zealously supported the claims of Gen. Taylor for the presidency in the same year, and upon the accession of the latter to office in 1849 was offered a seat in the cabinet, which he declined. He was subsequently appointed the representative of the United States at the court of Great Britain, a position which he occupied with credit until Oct. 1852, when he was recalled at his own request. The remainder of his life was devoted to his private business. His

benefactions for private and public purposes were numerous and wisely bestowed, although, from the nature of the circumstances under which the greater part of his life was passed, the amount cannot, as in his brother Amos's case, be accurately ascertained. In 1847 he gave to Harvard university \$50,000 to found the scientific school, bearing his name, connected with that institution; and he bequeathed a like sum in aid of the same object. He left a further sum of \$50,000 for the purpose of erecting model lodging houses, the income of the rents to be for ever applied to certain public charities. He was greatly esteemed in private life for his benevolence of disposition and genial manners, and in his public relations commanded the respect of all parties.—See Hunt's "Lives of American Merchants," vol. ii.

LAWRENCE, Amos, an American merchant, brother of the preceding, born in Groton, Mass., April 22, 1786, died in Boston, Dec. 31, 1853. After a brief period at school, and at the Groton academy, he was in the latter part of 1799 engaged as a clerk in a country store in Dunstable, his health being too delicate to allow him to assist his father and brothers in their labors upon the farm. A few months later he was bound an apprentice to a Mr. Brazier, who kept a large "variety store" in Groton, of which establishment in less than two years he became the virtual head, enjoying the entire confidence of his master. In April, 1807, upon the expiration of his time, he went to Boston with \$20 in his pocket, for the purpose of establishing a credit there, his intention being to open a shop in Groton in partnership with a fellow apprentice. But having received the offer of a clerkship in Boston, he decided to remain there, and upon the failure of his employers a few months afterward he commenced business, in Dec. 1807, as a dry goods merchant on his own account. During the period so disastrous to the mercantile interests of the country which succeeded the passage of the embargo act, he was enabled by the exercise of a careful economy, and by a prudence and foresight remarkable in so young a merchant, not only to avoid any serious pecuniary embarrassment, but to lay the foundation of his own fortune as well as those of many members of his family. On Jan. 1, 1814, he entered into a partnership with his brother Abbott, who for the previous 5 years had been his chief clerk, which continued uninterruptedly until the death of Amos. The business operations of the firm were conducted with great success, and both brothers aided in the establishment of manufactures in New England, thereby largely adding to their fortunes. The naturally benevolent disposition of Amos, however, gradually led him to resist the demands which his business imposed upon his time and inclinations; and when, after a serious illness in 1831, he was compelled to retire permanently from active participation in the affairs of his firm, he surrendered the remaining years of his life to acts of beneficence, which,

for their extent and practical benefit, have few parallels in the present age. He commenced on the first day of the year 1829 an account of his charities, which he kept until the day of his death, expending within that period, according to his books, the sum of \$639,000 for charitable purposes. According to his biographer in Hunt's "Lives of American Merchants": "Nearly five sixths of this amount were given during the last 11 years of his life. From 1842 to 1853 he gave \$525,000 for such purposes. The preceding 18 years, from 1828 to 1843, he expended in this way \$114,000. It is but reasonable to suppose that during the 23 years that elapsed between the date of his commencing business in Boston and the close of 1829, the amount of his benefactions was more than the sum necessary to make \$700,000." Among the public objects of his bounty were Williams college, to which he gave nearly \$40,000; the academy in Groton, now called the Lawrence academy, on which he expended at different times \$20,000; Wabash college, Kenyon college, the theological seminary at Bangor, Me., and several others. Books he distributed in whole libraries, sending collections to many literary institutions and deserving persons. He also established and for some time maintained a child's infirmary in Boston, and contributed \$10,000 toward the completion of the monument on Bunker hill. His private benefactions, which he always personally superintended, were almost innumerable, and several rooms in his house were used as the receptacles of useful articles for distribution. Poor students, ministers, and widows frequently received packages from this store selected by his own hand; and in the distribution of these, and indeed of all his charities, he recognized no distinction of creed or opinion. During the period of active benevolence following his retirement from business, his health was so precarious that any excess in the amount of his daily food, which was of the simplest kind, and which was regularly weighed by himself, was sure to bring on serious illness. He nevertheless persevered in the course marked out by him, and the last entry in his diary and his last letter, both dated within a few hours of his death, which was sudden, relate to donations for charitable purposes.—In 1855 appeared "Extracts from the Diary and Correspondence of the late Amos Lawrence, with a Brief Account of some Incidents in his Life; edited by his son, William R. Lawrence, M.D." (8vo., Boston).

LAWRENCE, SIR HENRY MONTGOMERY, a British soldier and statesman, born in Mattara, Ceylon, June 28, 1806, died in Lucknow, July 4, 1857. He was a younger son of Lieut. Col. Alexander Lawrence, who fought with honor in India against Tipoo Sahib. He studied at the military college at Addiscombe, obtained a cadetship in the Bengal artillery in 1821, served in the Afghan campaign in 1843, and in the same year, having then reached the rank of major, was appointed British resident at Cat-

mandoo. He distinguished himself in the Sutlej campaigns, was made a military companion of the Bath, and from 1846 to 1849 was agent for the governor-general on the N. W. frontier and resident at Lahore, where his services won for him the civil decoration of K.O.B. He was next appointed chief of the board of administration in the Punjab, and received the commission of colonel and the honorary appointment of aide-de-camp to the queen. From 1852 to 1857 he was agent of the governor-general in Rajpootana. Although ill health demanded his return to England, he consented at the request of the Indian government to assume the chief commissionership of Oude, and arrived at Lucknow in March, just before the commencement of the mutiny. When the first disturbances occurred he demanded and obtained full powers as chief military commander in Oude, receiving at the same time a commission as brigadier-general, and the memorable defence of the residency was made under his direction up to the time of his death. He was mortally wounded by a shell July 2, and died at the residency two days afterward. Sir Henry Lawrence was the author of "Adventures of an Officer in Runjeet Singh's Service," and of various military and political essays, originally published in the "Calcutta Review," which were collected and reprinted in London in 1859.—SIR JOHN LAIRD MAIR, brother of the preceding, born in Richmond, Yorkshire, March 4, 1811. He was educated at the grammar school of Londonderry, and at Haileybury college, and having received a cadetship in the Bengal civil service of the E. I. company, went out to India in 1829, passed through various subordinate stations with a reputation for great diligence and efficiency, and was magistrate successively at Delhi, Paniput, and Goorgaon. About 1845 he was appointed judge magistrate and collector in the central district of Bengal, whence he was transferred in the following year to the chief commissionership of the newly annexed provinces beyond the Sutlej. The complete success which attended his efforts to establish the British system of laws in these provinces pointed him out as the fittest person to undertake a similar task in the rest of the Punjab, which came under the company's authority in 1849. His services at this post, in which he assisted his brother Henry until 1852, when he became chief commissioner, were of the highest value. He was still at the head of affairs in that country when the mutiny broke out in 1857, and owing to his prompt and judicious measures the Punjab was one of the few parts of Bengal in which the rebellion never succeeded. The government of Mr. Lawrence was universally popular, and he was able not only to maintain the tranquillity of his own province, but to collect most of the troops, stores, and money which were used in the siege of Delhi. The title of "the saviour of India" was applied to him in parliament and ratified by the enthusiasm of the English public. Having been created a civil

K.O.B. in 1856, he was made G.C.B. in 1857, and baronet Aug. 16, 1858. In the same year he returned home, where he was received with great honor, was made a member of the new Indian council, and of her majesty's privy council, and received from the court of directors a life pension of £2,000.

LAWRENCE, JAMES, a captain in the United States navy, born in Burlington, N. J., in Oct. 1781, died of wounds received in action, June 5, 1813. He entered the navy as a midshipman Sept. 4, 1798; in 1800 he was made acting lieutenant, and in April, 1802, a lieutenant, and served with distinction during the war with Tripoli. He was 1st lieutenant of the schooner *Enterprise*, and was one of the party which boarded and destroyed the frigate *Philadelphia* in the harbor of Tripoli on the night of Feb. 15, 1804. For his participation in this achievement, undoubtedly one of the most gallant in naval annals, congress voted Lawrence a gratuity of \$80 in money, which he declined receiving. In the several attacks on the city and harbor of Tripoli in July, August, and September, 1804, he bore a distinguished part. In Feb. 1805, he returned to the United States in the frigate *John Adams*, but sailed for the Mediterranean again, a few months afterward, in command of gun boat No. 6, of two guns, one of a class of 12 vessels of that description built expressly for operations against the city and batteries of Tripoli. Soon after his arrival on the station peace was concluded, and he returned to the United States. He served as 1st lieutenant of the *Constitution* in 1808, and subsequently commanded the *Vixen* (14 guns), *Wasp* (18), and *Argus* (16). On Nov. 8, 1810, he was promoted to the rank of master commandant, and appointed to the *Hornet* (18 guns), which command he held at the opening of the war between the United States and Great Britain in 1812. In the autumn of that year a squadron was formed under the command of Com. William Bainbridge, consisting of the frigate *Constitution* (44 guns), flag ship, *Essex* (32), Capt. David Porter, and *Hornet* (18), Capt. Lawrence. The *Constitution* and *Hornet* sailed from Boston, Oct. 26, the *Essex*, then in the Delaware, being instructed to follow. In December the two ships arrived off the port of San Salvador, Brazil, where the British sloop of war *Bonne Citoyenne* was lying, with a very large amount of specie on board. This ship and the *Hornet* were of about equal force, and Capt. Lawrence sought an engagement with her. Com. Bainbridge pledging himself that the *Constitution* should be out of the way; but the British commander declined the challenge, doubtless for good reasons; a ship with treasure on board may with propriety avoid an engagement with even an inferior force. Soon afterward the *Constitution* separated from the *Hornet*, leaving her to blockade the *Bonne Citoyenne*, which she did for 18 days, when she was chased off by the *Montague* (74), and shaped her course for the mouth of the Demerara river, making

several captures on the passage. On Feb. 24, when off the mouth of the river, the *Hornet* fell in with a heavy man-of-war brig, which was soon discovered to be English. At 5 P. M. the two vessels were standing toward each other, close-hauled, upon opposite tacks. At 5h. 25m. they passed within pistol shot, and exchanged broadsides, each ship using her larboard battery. The English vessel now put her helm up, intending to rake the *Hornet*, which she avoided by bearing up at the same time. A very close and severe action was maintained for about 15 minutes, when the English vessel surrendered, and immediately made a signal of distress. She proved to be the sloop of war *Peacock* (18 guns), Capt. William Peake, and was in a sinking condition, having 6 feet of water in her hold. It was impossible to save her, and the wounded were therefore removed without delay. This was barely accomplished when she sank in 5½ fathoms of water, carrying down with her 9 of her own and 5 of the *Hornet's* men. The loss of the *Peacock* was 38 killed and wounded, Capt. Peake among the former, while the *Hornet* had but one killed and two wounded; and the ship was so little injured, that by 9 o'clock that night she was perfectly ready for another action. The ships were of equal size, but the armament of the *Hornet* was the heavier, consisting of 18 32-lb. carronades and 2 long 12s, while that of the *Peacock* was 16 24-lb. carronades, 3 long light guns, and a 12-lb. carronade upon her topgallant forecastle. As the *Hornet* had now 277 souls on board, including prisoners, and was short of water, Capt. Lawrence determined to return to the United States, and arrived at New York in March following. Congress bestowed a gold medal upon Lawrence, and a silver one upon each commissioned officer who served under him in this engagement.—On March 4, 1813, Lawrence was promoted to the rank of captain, and appointed to the frigate *Chesapeake*, then lying in Boston. The *Hornet* was also placed under his orders, and it was intended that the two ships should cruise against the Greenland whale fishery. In the forenoon of June 1, 1813, the *Chesapeake* was lying in President roads ready for sea, and the British frigate *Shannon* (38), Capt. P. V. Broke, appeared alone in the offing for the express purpose of meeting her. Capt. Lawrence felt himself impelled under these circumstances to go out and engage the *Shannon*, though doubtless against his better judgment. The ships were very nearly of equal force, both mounting 48 guns, long 18 and 32 lb. carronades, and their complements were doubtless about the same. But the *Shannon* was a thoroughly disciplined ship, and Capt. Broke, who had for some time contemplated meeting the *Chesapeake*, had been cruising and constantly exercising his ship's company, with a view to this engagement. The *Chesapeake*, on the other hand, had arrived at Boston two months before from a cruise, and the men had been much on shore, indulging freely in the dissipations to

which sailors under such circumstances are peculiarly prone. Capt. Lawrence, having been but a few days in command, was a stranger to his crew, among whom some disaffection existed in consequence of unpaid prize money. The 1st lieutenant, Mr. O. A. Page, an experienced officer, was ill on shore, and died a few days afterward; and Lieut. Ludlow, who acted in his place, though a very meritorious officer, was young and inexperienced. There was but one other commissioned lieutenant on the ship, two midshipmen acting as 8d and 4th lieutenants. At noon the *Chesapeake* weighed and stood out with a moderate breeze at S. W. The *Shannon* stood off under easy sail until about 4 o'clock, when, the *Chesapeake* firing a gun, she hove to. At 5h. 30m. the two ships were about 30 miles from Boston light. The *Shannon* had filled away, and was running with the wind a little free under single-reefed topsails and jib, while the *Chesapeake* under whole topsails and jib was coming up with her rapidly. She soon ranged up on her starboard side, within pistol shot, and at 5h. 45m. the action was commenced by the *Shannon*, which opened her fire as her guns bore, the *Chesapeake* retaining hers until the ships were fairly yard arm and yard arm, when she fired a well directed broadside, which sounded like one report. For several minutes a most severe cannonade was maintained by both ships, when the rigging of the *Chesapeake* was so much cut that she became unmanageable, was thrown into the wind, taken aback, and fell aboard the *Shannon*, the waist anchor of the latter hooking her rigging. She was now exposed to a destructive raking fire, her upper deck particularly being swept by grape and canister from the carronades of her antagonist. Boarders were ordered to be called, but the bugleman, a negro, had left his post. Capt. Lawrence was wounded; Lieut. Ludlow had been twice wounded by grape and musketry; Mr. White, the sailing master, was killed; and Lieut. Broom of the marines, Mr. Ballard, acting 4th lieutenant, and the boatswain were all mortally wounded. The failure to call the boarders caused some confusion, and at this critical moment Capt. Lawrence fell with a second and mortal wound, being shot through the body. The upper deck was now left without a single commissioned officer, and the *Shannon* boarded and carried the ship, no regular resistance being made. Capt. Broke stated in his official report, that after he boarded "the enemy fought desperately, but in disorder." This sanguinary action lasted but 15 minutes. It could not but be destructive, for it was very close, and the water smooth. The *Chesapeake* had 48 killed and 98 wounded, 146 in all. The *Shannon* had 23 killed and 56 wounded. The captain, 2 sea lieutenants, the lieutenant of marines, the sailing master, boatswain, and 3 midshipmen of the *Chesapeake* were either killed or soon died of their wounds; the 2d and 3d lieutenants and several of the midshipmen were wounded. The *Shannon* lost her 1st and 2d

lieutenants, and several officers were wounded, including Capt. Broke, severely. Both ships now made sail for Halifax. Capt. Lawrence survived 4 days, and every respect was paid by the British officers at Halifax to his remains, and those of Lieut. Ludlow. They were interred with the military honors appropriate to his rank, his pall being supported by the senior British naval captains present. He had treated the officers and crew of the Peacock with such humanity that, upon their arrival at New York, they made an acknowledgment of it in the newspapers, using the expressive phrase that they had "ceased to consider themselves prisoners;" and this fact, which was fresh in the minds of all, brought crowds to pay the last honors to the memory of their late gallant enemy. Few officers enjoyed a higher professional or private reputation than Capt. Lawrence. His personal appearance was dignified and commanding. In action he evinced the most calm and collected courage, and his last injunction as he was borne below, mortally wounded, was: "Don't give up the ship."

LAWRENCE, SIR THOMAS, an English portrait painter, born in Bristol, May 4, 1769, died in London, Jan. 7, 1830. While a child in petticoats he drew likenesses with the pen and pencil, and when only 6 years old took portraits in profile of Lord and Lady Kenyon. At this time his father was the landlord of the Black Bear inn at Devizes, a fashionable resort of travellers to Bath, and the personal beauty and genius of young Lawrence were wont to excite the admiration of the guests who frequented the house. After a very imperfect education he began to paint, and at 10 years of age attempted such ambitious and difficult subjects as Peter denying Christ, Haman and Mordecai, and the like. In 1782 his father removed to Bath, and placed him under the instruction of Hoare, the crayon artist. Here also he found abundant employment for his pencil in executing half guinea likenesses of visitors to the wells, thereby acquiring a mastery over the details of costume. At the age of 18 he received from the society of arts the great silver pallet, with an additional present of 5 guineas, for a copy in crayon of the "Transfiguration." In 1787 he removed with his father to London, exhibited in Somerset house the same year, and almost immediately became the fashionable portrait painter of the day, a preëminence which he maintained for upward of 40 years. In 1791 he was chosen a "supplemental associate" of the royal academy, his age not permitting him to become a candidate for associate membership (the only instance on record in which such an honor has been bestowed), and in the succeeding year was appointed by George III. to succeed Sir Joshua Reynolds as his principal painter in ordinary. During the next 20 years commissions for portraits flowed in upon him in such abundance that he was obliged to resign all attempts at historical composition, in which he had given some youthful promise.

He was generally considered the first portrait painter of the time, and the members of the royal family and almost all persons distinguished in the fashionable world, or in literature, art, science, or the learned professions, were numbered among his sitters. His portraits of beautiful women and children were particularly celebrated. While at the height of his fame he was commissioned by the prince regent to paint the portraits of the sovereigns, statesmen, and generals who had participated in the overthrow of Napoleon, in the performance of which duty he visited the congress of Aix la Chapelle, and thence went to Vienna and to Rome, where he painted the pope. This series of portraits, which is of unequal merit, is deposited in Waterloo hall, at Windsor. In 1820, during his absence on the continent, he was elected to the chair of president of the royal academy, made vacant by the death of Benjamin West, and on his arrival in England became the recipient of distinctions seldom bestowed upon members of his profession. He had some years previous received the honor of knighthood. His reputation has not wholly survived him, as, notwithstanding his facility in expressing individual character, he was inclined to an over-refinement of gracefulness, and his portraits sometimes degenerated into a mannered insipidity. His personal character was in every respect engaging, and he was universally beloved for his amiability and generosity. Although he received large sums for his portraits, his liberal style of living and frequent pecuniary aid to brother artists prevented him from becoming a rich man. His "Life and Correspondence," by Mr. D. E. Williams, appeared in 1831. A collection of engravings from his choicest works, with biographical and critical notices, was published in London in 1845 (royal folio, 50 plates).

LAWRENCE, SAINT, born in Rome about the beginning of the 8d century, martyred under the emperor Valerian, Aug. 9, 258. He was one of the 7 archdeacons of Rome, and had the care of the church treasury. Refusing to give up his charge to the Roman prefect, he was scourged and then broiled to death on a large gridiron. His heroism under the torture is said to have caused the conversion of several pagans. A church was built over his remains outside the city walls in the reign of Constantine the Great.

LAWRENCEBURG, a city and the capital of Dearborn co., Ind., situated in the S. E. corner of the state, on the Ohio river, 22 m. below Cincinnati, and 86 m. S. E. from Indianapolis; pop. in 1859, 4,000. It has great facilities for commerce and manufactures, being the terminus of the Whitewater canal, and the point of junction of the Ohio and Mississippi and Indianapolis and Cincinnati railroads. In 1859 it had 6 churches, 2 newspaper offices, 10 schools, 2 grist mills, 3 distilleries, and 2 breweries.

LAWSON, HENRY, an English savant, born in Greenwich, March 23, 1774, died in Bath, Aug. 23, 1858. He was the son of a prelate of the church of England, and educated with his

brother by Dr. Burney. He early displayed much scientific ability, was elected a fellow of the royal astronomical society in 1833 and of the royal society in 1840, and established in 1841 an observatory in Bath. In 1847 he published a brief "History of the New Planets;" in 1853 an account of two inventions for the relief of persons helpless from disease or wounds, called the lifting apparatus and the surgical transferrer; and in 1855 a pamphlet recommending the training of the youth of Britain to military exercises. His house and observatory at Bath were a favorite resort of scientific students. His large property was divided by his will into 189 portions, and many of his legacies were for the benefit of scientific and charitable institutions. He bequeathed his large 11 feet telescope, made by Dollond, to the royal naval school at Greenwich, and the whole of his meteorological instruments (including a hygrometer made by Dr. Franklin) to Mr. Lowe, for his private observatory at Beeston, near Nottingham. He claimed descent from Queen Catharine Parr, of whom he left various relics to her biographer, Miss Strickland.

LAWSON, JOHN, a surveyor-general and first historian of North and South Carolina, of Scotch birth. He began his surveys in 1700, and was an intelligent observer, enterprising and circum-spect, but fell a victim to the jealousy of the natives, who confounded the surveyor of their territory with those who despoiled them of it. He was captured by them during one of his explorations when in company with De Grafenried, a Swiss baron who contemplated colonization. The latter was permitted to buy himself free, but Lawson failed to propitiate their hostility and perished by the fire torture. He left one of the most valuable of the early histories of the Carolinas, of their feeble condition, their resources and aspects, and their principal aboriginal tribes. It is entitled "A New Voyage to Carolina, containing the Exact Description and Natural History of that Country, together with the Present State thereof; and a Journal of a Thousand Miles Travelled through Several Nations of Indians, giving a Particular Account of their Customs, Manners, &c." (London, 1709). The volume is a quarto of 258 pages, well illustrated with one of the best maps of the time, and with various other engravings, chiefly in natural history. It is now rare.

LAWYER. See ADVOCATE, ATTORNEY, and COUNSELLOR.

LAYARD, AUSTEN HENRY, an English traveller and archaeologist, born in Paris during the temporary residence of his parents in that city, March 8, 1817. He is descended from a Huguenot family which emigrated from France after the revocation of the edict of Nantes, and is said to have many points of personal resemblance to his southern ancestry. After spending a number of years in Florence, where among other things he cultivated a taste for drawing, he commenced the study of law in England, but soon abandoned that occupation to embark in a

tour of exploration in the East, to which he is said to have been incited by a speech of Daniel O'Connell. Leaving England in 1839, he traversed Albania and Roumelia; and after a brief residence in Constantinople, during which he acted as correspondent for a London newspaper, he proceeded through Asia Minor to Syria, "scarcely leaving untrod one spot hallowed by tradition, or unvisited one ruin consecrated by history." Thence he went to Persia, and devoted some time to an examination of the remains of Susa, though without any important results. During this period he thoroughly mastered the Arabic language and some of the kindred dialects, and so assimilated his habits, dress, and general appearance to those of the Arabs, that he was frequently taken for one of that race. Passing through Mosul in 1843 on his return to Constantinople, he found that M. Botta, the French consul at the former place, was making excavations, under the direction of his government, in the neighboring mound of Kouyunjik; and he accordingly directed the attention of this gentleman to the great mound of Nimroud, 16 miles below Mosul, as likely to contain remains of the utmost interest to the archaeologist. The distance of the place, however, and its inconvenient position, prevented M. Botta from availing himself of this suggestion, and circumstances detained Mr. Layard in Constantinople and its neighborhood for several years. He however strongly cherished the hope of exploring the Assyrian ruins around Mosul, which he had cursorily examined while passing down the Tigris in 1840; and the gratifying results of M. Botta's excavations at Khorsabad in 1843-'4, regularly communicated to him by the latter, increased his anxiety to revisit the great mound of Nimroud. Efforts to interest various people in the subject proving unavailing, Sir Stratford Canning, the British ambassador in Constantinople, agreed to defray for a limited period the expense of excavations in Assyria, and Layard eagerly embraced the opportunity. Arriving in Mosul in Nov. 1845, he broke ground in the great mound of Nimroud on the 9th of that month; and from that period until April, 1847, with the exception of partial explorations at Kouyunjik, opposite Mosul, and Kalah Shergat, and occasional excursions into the adjacent regions, he prosecuted his labors assiduously at that place, bringing to light sculptures, bass-reliefs, hieroglyphics, specimens of glass and pottery, and other monuments of Assyrian civilization, which, according to the testimony of Dr. Robinson, "make us in many respects better acquainted with that powerful people than all the accounts we have heretofore possessed." His excavations were not pursued however without considerable difficulty, caused by the superstition and intractable character of his Arab workmen, and the petty persecutions of the pasha of Mosul, from which he was finally relieved by a firman from the sultan authorizing him to remove the sculptures. During the progress of the excavations, through

the interest of Sir Stratford Canning, the British museum advanced a small fund in aid of the undertaking; and in 1847 a number of cases of antiquities, including the colossal human-headed lions and bulls and the Nimroud obelisk, which had been floated down the Tigris to Bagdad, and there placed on shipboard, were received in England, and deposited in the Assyrian transept of the British museum. In the same year Mr. Layard returned home, and, after recruiting his health, prepared for publication his "Nineveh and its Remains" (2 vols. 8vo., London, 1849), accompanied by 2 folio volumes of illustrations and a volume of inscriptions in the cuneiform character. In 1848 he returned to Constantinople as attaché to the embassy there; and in the latter part of 1849, at the invitation of the trustees of the British museum and under their direction, he resumed the excavations at Nimroud, which were carried on for about a year, after which he transferred the scene of his labors to Babylon. The excavations at this place produced no important result; but the discoveries at Nimroud, particularly the tablets containing Ninevitic records, were of great value. Returning to England, he published in 1853 the results of his second expedition, under the title of "Discoveries among the Ruins of Nineveh and Babylon, with Travels in Armenia, Kurdistan, and the Desert" (2 vols. 8vo.). Upon the retirement of Lord Palmerston from the foreign office in 1851 Mr. Layard was appointed under secretary of state for foreign affairs, and soon after entered parliament as member for Aylesbury. He declined appointments under the succeeding administrations, preferring to give his attention chiefly to questions of eastern politics, and soon attracted attention in the house of commons as a debater. In 1854 he visited the Crimea, and was subsequently instrumental in procuring the appointment of the committee of inquiry into the state of the British army before Sebastopol. He declined office under the Palmerston administration of 1855, and became a member of the "Administrative Reform Association." His motion embodying the views of this organization was rejected in the house of commons in June, 1855, by a decisive vote. At the general election of 1857 he was defeated at Aylesbury, and subsequently at Wighton, and has not since then occupied a seat in parliament. He has of late years devoted himself to the preservation of the frescoes and paintings of the early Italian masters. Of these he has made a series of elaborate drawings and tracings, a portion of which have appeared in the publications of the "Arundel Society."

LAYBACH, or LAIBACH, a town of Austria, in the duchy of Carniola, situated on the river Laybach and on the railway from Vienna to Trieste, 273 m. from the former and 40 m. from the latter city; pop. about 18,000. The town occupies both banks of the river, which is here crossed by 5 bridges. It has manufactories of linen, woollen, and silk, a large sugar refinery, and oil, paper, and cotton mills. Laybach is a

place of great antiquity, the seat of a bishop, and of the civil and military government of the province. A congress of European monarchs was held here in 1821 to regulate the affairs of Italy.

LAYNEZ, LAINEZ, or LEYNEZ, JACOBO, the second general of the society of Jesus, born in Almançario, Castile, in 1512, died Jan. 19, 1565. He received the degree of master in arts at the university of Alcalá, and subsequently went to Paris with the double purpose of completing his theological studies and seeing Ignatius Loyola, the fame of whose virtues had aroused his interest. He was the second person who joined Ignatius in founding the order of Jesuits, the first having been Francis Xavier; and the constitution of the society is frequently though erroneously supposed to have been mainly of his devising. He went with Ignatius to Rome in 1537, and was appointed by the pope professor of scholastic theology. After extensive missionary labors in Italy and other parts of Europe, he was sent to Africa, and on his return was thrice present in the capacity of pope's theologian at the council of Trent, where he upheld the supremacy of the Roman pontiff in a discourse which attained a wide celebrity. He succeeded Ignatius as general of the order in 1558, and on the death of Pope Paul IV. in the following year 12 of the cardinals were in favor of raising him to the vacant throne. To avoid being elected, he withdrew from the city. He was a zealous opponent of the Calvinists, not only at the council of Trent but at the famous "colloquy of Poissy" (1561), whither he went in the suite of the legate, Cardinal Ferrara. He disputed here with Beza, but distinguished himself by moderate and pacific views, which, however, were not adopted. On his return to Rome the pope offered him a cardinal's hat, which he refused. He left the society at his death in a flourishing state, and no small part of its prosperity was owing to his prudence and good government. It has been asserted that he made several modifications in its constitution, but this is an error. Laynez left several unfinished theological works and some minor pieces. His life was written in Spanish by Ribadeneira.

LAZARISTS. See PRIESTS OF THE MISSION.

LAZULITE. See LAPIS LAZULI.

LAZZARI, DONATO. See BRAMANTE D'URBINO.

LAZZARONI (It. *lazzaro*, a leper), the lowest classes of the populace of Naples, including porters, itinerant venders of food, boatmen, beggars, and all without a fixed place of abode. The name is derived from that of the beggar Lazarus mentioned in the parable of Christ. During the middle ages lepers were obliged to wear a peculiar dress, consisting simply of short drawers, shirt, and hood, and until within a few years this costume was generally retained by the lazzaroni. At the end of the last century their number was estimated at 40,000, most of them sleeping in the open air, in archways, or in large baskets

which they carried with them. Though idle, ignorant, and vicious, they are abstemious, frugal, and, when not excited, proverbial for their good nature. They still annually elect their chief, the *capo lazzaro*, the election taking place in the open air, and being determined rather by clamor than by choice. The lazzaroni have frequently played an important part in political revolutions. The revolt of Masaniello was principally due to them; and during the siege of Naples by Championnet in 1799 they fought bravely, their *capo* Michele being afterward appointed a French colonel. In recent times the lazzaroni have generally been identified with the royal interests and conservatism; the dread of their being turned loose to pillage the city having been used as an effectual check on the middle classes. Of late they have lost many of their peculiarities; efforts have been made by government to inspire them with a love of cleanliness and order; and they are no longer recognized as a separate class, but are enrolled in different districts, and subjected to the same police regulations as other citizens.

LEA, ISAAC, LL.D., an American naturalist, born in Wilmington, Del., March 4, 1792. His ancestors followed William Penn from England, and were ministers in the society of Friends. At the age of 15 he was placed with his elder brother, a merchant in Philadelphia, but retained a fondness for natural objects. With the late Prof. Vanuxem, then a youth, he passed all his leisure time in collecting minerals, fossils, &c., and in observing the rocks of Pennsylvania. In 1815 both were elected members of the academy of natural sciences of Philadelphia, and Mr. Lea shortly after published his first paper in the "Journal of the Academy," being an account of the minerals which he had observed in the neighborhood of Philadelphia. To a collection of minerals and geological specimens made by his own exertions, those of palæontology and recent shells were added, which at the present time have grown to great magnitude; that of fresh water shells is entirely unequalled, the family of *unionids* alone consisting of about 8,000 specimens of both sexes, all ages and varieties, and of wide geographical distribution. In 1821 he joined the firm of his father-in-law, Matthew Carey, who was engaged in the largest publishing business in the United States. In 1827 he began a series of memoirs on new forms of fresh water and land shells, which have been continued to the present time. These were published in the "Transactions of the Philosophical Society," vols. iii. to x., in the "Journal of the Academy of Natural Sciences," vols. iii. and iv., and separately under the title of "Observations on the Genus *Unio*," &c. (7 vols. 4to., Philadelphia, 1827). In 1832 he visited Europe, and in 1833 published "Contributions to Geology," consisting of descriptions of 223 species of tertiary fossils from Alabama, illustrated with great exactness in colors. He retired from business in 1851 with an ample fortune, and his time has since been devoted to his favorite scientific

pursuits. In 1852 he made a second visit to Europe. Recently he has published, in large folio, with colored plates, "Fossil Footmarks in the Red Sandstones of Pottsville," intended to illustrate the remarkable discovery made by himself of saurian footprints in the red sandstone 700 feet below the conglomerate of the coal formation at Pottsville, and named by him *sauropus primævus*. This discovery was of great interest, as it had been believed until within a few years that no "air-breathing animal" had existed even so low as the coal measures. In another memoir he described the bones and teeth of a saurian from the new red sandstones of Pennsylvania. These constituted the first bones and teeth observed in this formation in the United States, and the animal was named by him *clepsysaurus Pennsylvanicus*. These discoveries were followed by others which have been communicated to the academy of natural sciences. Mr. Lea has contemplated the publication of a large work on the *unionids* of the United States, which will be a complete monograph of the genera and species of that family. His memoirs published within the last 38 years are preparatory to this object. The importance of the extensive publications of Mr. Lea, consisting as they do almost entirely of original observations, has been acknowledged by numerous learned bodies both in Europe and America. He was elected a member of the American philosophical society in 1828, and subsequently of the zoological society of London, the Linnæan society of Bordeaux, the imperial society of natural history of Moscow, &c. In Dec. 1858, he was elected president of the academy of natural sciences of Philadelphia, over which he still presides. Among his works, beside those already mentioned, are: "Description of a New Genus of the Family Melaniana" (8vo., 1851), and "Synopsis of the Family of Naiades" (3d ed. enlarged, 4to., 1852).—THOMAS GIBSON, an American botanist, brother of the preceding, born in Wilmington, Del., Dec. 14, 1785, died in Waynesville, O., Sept. 25, 1844. He was engaged in mercantile affairs until his 48d year, when he retired from business and devoted himself to botany. He left an extensive herbarium, with the synonymy and description of many new species, and an unfinished catalogue. A "Catalogue of Plants, Native and Naturalized, collected in the Vicinity of Cincinnati, O." (8vo., Philadelphia, 1849), was prepared from papers by Mr. W. S. Sullivant.

LEACH, WILLIAM ELFORD, an English naturalist, born in Plymouth in 1790, died in St. Sebastiano, Piedmont, Aug. 25, 1836. As a boy he showed the bent of his inclinations by making collections of natural objects; and with a view of devoting himself to scientific pursuits he became in 1809 a student at St. Bartholomew's hospital in London, then under the care of Dr. Abernethy. Before the completion of his medical studies he became known as an ardent student in zoology; and from Edinburgh he was called to London to fill the post of cura-

tor of the natural history department of the British museum. He entered upon the discharge of his new duties with a zeal which never relaxed, and found time also to prepare papers for publication in the "Transactions" of the chief scientific societies in Europe and America. One of the first and most important of these was that on "Crustaceology" (1818), a branch of natural history to which he devoted much attention, and in which he made many important discoveries. Its leading feature was the separation of the *myriopoda*, *arachnida*, and *insecta* from the *crustacea*, all of which had been grouped by Linnæus under *insecta*. In this arrangement he showed his predilection for the natural system of classification, as opposed to the artificial system of Linnæus to which English naturalists were strongly attached; and his subsequent labors in this direction are considered to have produced the first movement toward the adoption of the system now in vogue in England. His other most important works were the "Zoological Miscellany," a serial commenced in 1814 after his appointment to the British museum, and completed in 1817 in 8 vols.; and the first part of the "History of the British Crustacea," of which 17 parts appeared. His severe labors finally so affected his eyesight and his general health that he was obliged to resign his curatorship, and to a great extent the pursuit of his favorite studies. In 1826 he visited southern Europe, and occupied himself at intervals in making collections of the insects in the localities where he happened to be residing. These are preserved in the Plymouth institution and by the Devon and Cornwall natural history society. He died of cholera. His love of animals was excessive, and he had a peculiar faculty for subduing the most ferocious kinds. One of the most faithful and attached companions of his walks was a wolf which he had tamed.

LEAD, a bluish gray soft metal, of specific gravity, when condensed by rolling, 11.44, otherwise 11.35; chemical symbol Pb, from Lat. *plumbum*; equivalent, 103.57. It is easily cut with a knife, and when rubbed on paper leaves a dark bluish gray streak. Its lustre when freshly cut is strongly metallic; but the bright surface soon tarnishes in consequence of the formation of a thin film of basic carbonate of the oxide of the metal. Lead is so ductile that it can be rolled into thin sheets, or drawn into wire; but its tenacity is feeble, a wire $\frac{1}{16}$ inch in diameter supporting only 30 lbs. It possesses flexibility in a high degree, but is deficient in elasticity. It has a perceptible peculiar odor, but no taste. It fuses at 612° F., and on cooling tends to assume octahedral crystalline forms. By repeated heating and cooling below its freezing point it is said to acquire a permanent increase of bulk. In a brasqued crucible in the high heat of a furnace, estimated at 130° Wedgwood, it volatilizes, losing $\frac{1}{3}$ of its weight in an hour. It even takes fire and burns with a bluish white light in the air at a very high temperature, forming with oxygen the oxide

known as litharge. When finely divided, the metal is even more inflammable than gunpowder, as shown by Faraday. When about melting, its surface is covered with an iridescent pellicle of oxide of lead, which soon gives place to the yellow litharge. Lead is scarcely attacked by hydrochloric acid, even concentrated and boiling; and sulphuric acid has no effect upon it unless the acid is in this condition, when it converts the metal into an insoluble sulphate. Nitric acid diluted and cold readily dissolves it. Lead forms alloys with all the metals except iron; and some of these combinations are much used in the arts. Type metal is formed of various proportions of lead and antimony, with sometimes a little tin; pewter, of lead and tin; 2 parts of lead and one of tin form the alloy used for organ pipes, and in this and other proportions it is the solder of the plumbers. Equal parts of lead and tin make the solder of the tin smiths, a very combustible alloy, which when heated to redness gives a combination of oxides of lead and tin known as polishing putty, and much used in the arts for polishing hard substances and preparing enamels. It is on the strong affinity of lead for gold and silver that the method of separating these metals from earthy admixtures and oxidizable metals is based, the lead seizing upon them when melted together, and then being made to separate from them when converted into an oxide by the process described in ASSAYING and CUPELLATION. The qualities of the metal render it ill adapted for purposes requiring strength; but being easily moulded from a fused state into any form, its cheapness and weight recommend it as the best material for small shot and musket balls, and its cast sheets when rolled thin serve as an excellent lining of cisterns, and are used for those in chemical works designed to contain sulphuric and hydrochloric acids. Lead pipe is exceedingly convenient for conveying water, being transported in coils like ropes, and when unwound for laying furnished in any desired length; it is easily bent to turn corners, cut without difficulty, and joined with great facility by soldering. If ruptured by water freezing within the pipe, the damage is limited to a small space, and is easily repaired. These advantages cause lead pipe to be very generally used, notwithstanding the evil effects often experienced by the poisonous qualities of the salts produced by the chemical action of the water and of the foreign substances carried along with it. This subject will be specially considered in the course of this article.—Little is known of the early use of lead. The metal is several times named in the Old Testament, and it is supposed that the word translated tin should have been rendered lead. Mines were worked in Britain at a very early period, Camden stating that lead was obtained from Cornwall and Cumberland before the Christian era. Under the government of the Romans the metal must have been largely produced, judging from the Roman relics found about the old mines, among which are blocks

of lead with Latin inscriptions. The Saxons continued these operations, and one of their mines near Castleton was dedicated to Odin. A sarcophagus of lead lined with linen has been found near Wirksworth, which must have been of as early date as the year 714. In Spain also lead together with silver and copper was obtained by the Romans from numerous mines on the southern slope of the Sierra Nevada; and in some of these mines recently reopened were found old Roman and Moorish lamps and other tools. Many other European countries are known to have produced lead as far back as the 10th to the 14th century; but out of Europe there are no records nor evidences preserved of ancient lead mining. Prescott states that the ancient Mexicans procured lead with silver and tin from the mines of Tarco, but no further mention is made of the metal. Even at the present day there seem to be no lead mines of importance known excepting in Europe and the United States; a fact which should argue neither a deficiency in the general distribution of the prevalent ore (the sulphuret or galena), nor difficulty in extracting from it the metal, which indeed is one of the easiest metallurgical processes; but the fact is probably due to the little use to which the metal can be applied by ignorant races. The Chinese, however, must work extensive lead mines from the amount of the metal which they consume as a lining for their tea chests.—Lead occurs in a great number of mineral combinations, but few of them will require notice as sources of supply of the metal. It has been found native at Alston Moor in Cumberland, disseminated with galena in a quartzose rock; also in a lead mine near Carthage in Spain, and at another in Ireland. The sulphuret or galena furnishes nearly all the lead of commerce. This is a compound of one atom of lead and one of sulphur, consequently yielding when pure 86.55 of lead and 13.45 of sulphur in 100 parts. Its hardness is 2.5–2.75; specific gravity 7.25–7.7. It is not malleable, and is too brittle to be cut with a knife, but is easily crushed to a gray powder. The color of the mineral is a lead or blackish gray. Its crystals are cubic, or readily cleave into cubes. The ore also occurs in granular masses more or less mixed with quartz and other gangues, and with zinc blende and iron and copper pyrites. The freshly cleaved faces of the crystals have the lustre of metallic mirrors, and masses of the pure ore of perfect crystalline structure have been met with more than 5 feet in thickness and weighing several tons. Galena fuses easily, requiring little more heat than lead to melt it. It is more volatile than lead, and as it evaporates it is decomposed, and its vapors are converted into sulphate of lead. Melted in contact with charcoal, it is readily reduced to metal. Silver in the state of sulphuret probably occurs in all galena as a trace at least, but very commonly in quantities sufficient to furnish a few ounces, and from this to 100, and in rare cases 200 oz. of silver to the ton of lead. Such ores are known as argenti-

ferous galena. In some of the mines of Freiberg galenas are found containing $\frac{1}{10}$ of silver, and are then properly considered silver ores. In Mexico many of the silver ores worked are of this class. At Tarnowitz in Prussian Silesia silver constitutes $\frac{1}{2}$ the weight of some of the galena. In the European mines the silver is an important object of exploration, and is profitably extracted when found only in the proportion of 8 oz. to the ton of lead; but the lead is not neglected, as it is in Mexico. In the United States argentiferous galenas are not treated for silver, except at the Washington mine in North Carolina, where silver is procured from other varieties of ore as well. Galena is sometimes found, as in Derbyshire, England, coating the walls of the veins in thin mirror-like sheets, which are called slickensides. These when accidentally scratched have the singular property of exploding with a loud report. Galena is the principal ore of nearly every lead mine. It is found in the crystalline rocks and metamorphic slates in veins associated with a great variety of other metals; and in the stratified rocks from the lower silurian to the lias in veins of various forms, and in beds, the last often being only the expansion of the materials of the veins between the planes of the strata. In Cumberland, England, where galena is extensively mined in the metalliferous or carboniferous limestone, which underlies the millstone grit, this mode of occurrence of the ores is distinguished by the name of flat veins or strata veins. These are productive usually but a short distance from the "rake" veins (or true veins cutting the strata) with which they connect. In this district, comprising a portion of Cumberland and adjacent parts of the counties of Durham and York, and furnishing more than half of all the lead product of Great Britain, the veins traverse the parallel and alternating beds of limestone and sandstone; in the former attaining their maximum thickness and yield of ore, and in the latter contracting and becoming poor. The features of this lead region are exhibited in that of Missouri, Iowa, and Wisconsin, where lead ores are extensively worked in the lower silurian limestones which also alternate with sandstones. A few mines in Cumberland have been profitably worked in sandstone, and in the United States the hard grit of the Shawangunk mountain in Ulster co., N. Y., has proved a repository of large quantities of galena found in veins cutting the strata.—Another ore which furnishes some lead to commerce is the carbonate, called also ceruse and white lead ore (PbO , CO_2), a compound of oxide of lead 83.5 and carbonic acid 16.5 per cent., containing metallic lead 77.5 per cent. It occurs in acicular, tabular, and various crystalline forms derived from a right rhombic prism, of adamantine lustre, sometimes transparent, and exhibiting the phenomenon of double refraction. The mineral is brittle with conchoidal fracture; hardness 3–3.5; specific gravity 6.465–6.48, the earthy varieties sometimes 5.4. When of this structure, the mineral

is frequently colored by the presence of other metals, green, blue, or brown, and black. It is associated with galena in most localities of the latter, but is not often found as a workable ore. At the Missouri lead mines it was formerly rejected in large quantities through ignorance of its true character; but since this has been understood it has added many millions of pounds of lead to the production of these mines. It was especially abundant at Mine La Motte, Mo. In St. Lawrence co., N. Y., it has been largely obtained for smelting in an impure pulverulent form, and was known as lead ashes. It contained sulphate of lead and carbonate of lime, and was evidently produced by the reaction of the last named compound upon galena. The Washington mine, Davidson co., N. C., the Perkiomen and other mines near Phoenixville, Penn., and the Mine La Motte, Mo., and others in the United States, have furnished splendid crystallizations of this ore, as well as considerable quantities for the furnace.—Phosphate of lead, or pyromorphite, has commonly been regarded as a rare mineral; but at the mines near Phoenixville it has been largely worked, the furnaces sometimes being chiefly supplied with this beautiful green crystallized ore, which in the upper levels of some of the mines furnished $\frac{1}{4}$ of the whole metallic product. It occurs in hexagonal prisms, sometimes transparent, but generally green from sesquioxide of chromium, yellow, or brown and orange yellow from intermixture with chromate

of lead. It is of resinous lustre and brittle texture; hardness, 3.5–4; specific gravity, 6.59–7.05. The ore is a mixture in variable proportions of phosphate of lead, chloride of lead, phosphate of lime, and fluoride of calcium, the last often replacing some chloride of lead, and arsenic acid some of the phosphoric acid. The proportion of phosphate of lead is usually from 77 to 89 per cent., and of chloride of lead from 9.5 to 10.8 per cent. The ore is fused without difficulty, and the button obtained on charcoal with the blowpipe presents angular faces on cooling.—The arseniate, sulphate, chloride, chromate, molybdate, and some other combinations of lead occur as beautiful minerals, associated especially in the Phoenixville mines with the other compounds named, but they are not of sufficient importance to be treated as productive ore.—The artificial compounds of lead, the oxides and carbonate, will be described after completing the account of the sources of supply and metallurgic treatment of the ores.—Great Britain has probably supplied more than half the lead product of Europe. In 1810 the annual yield of her mines was estimated by Villedosse at 12,500 tons; but Mr. Taylor considered this largely underrated, and in 1822 estimated the annual product at 31,900 tons, and in 1835 at 46,112 tons, of which Northumberland, Durham, and Cumberland furnished 19,626 tons. The following table exhibits the production in tons of the several lead districts for the years named:

Districts.	1845.	1846.	1847.	1848.	1849.	1852.	Tons of ore consumed, 1848.
Devon and Cornwall	7,188	5,947	8,888	7,458	8,045	48,812 $\frac{1}{2}$	11,898
Northern counties	28,620	27,621	28,408	28,922	30,781		39,630
Shropshire	2,500	2,300	2,769	2,762	2,810	3,228	4,190
Ireland	855	811	1,890	1,188	1,658		1,913
Scotland	901	948	823	1,726	957	12,708	2,583
South Wales	4,807	5,084	6,419	4,058	5,941		16,805
North Wales	6,207	4,943	5,675	7,069	7,448	1,985 $\frac{1}{2}$	2,581
Isle of Man	1,528	1,668	1,699	1,665	....	
Total	52,801	50,311	55,705	54,858	....	64,900	73,944

The exports in 1850, including ore, metal, shot, litharge, red lead, and white lead, were of the declared value of £387,575, and sent chiefly to France, Holland, Russia, and the East Indies. The value of the lead ores in silver is presented in the following table furnished by Mr. R. Hunt for the year 1852:

Districts.	Silver, oz. in 100 lbs. of lead.	Amount in oz.	Value.
Cornwall ..	85	250,008	£263,502
Devon	40	91,840	32,885
Cumberland ..	9	52,898	18,228
Durham, Northumberland, and Westmoreland ..	13	191,736	47,984
Cardigan, Caernarvon, and Carmarthenshire ..	15	91,680	22,920
Flintshire and Derbyshire ..	7	47,138	11,784
Montgomery and Merionethshire ..	6	5,563	1,890
Ireland	10	32,220	8,055
Scotland	8	19,048	4,762
Isle of Man	20	86,700	9,675
Total .....	..	818,825	£205,080

From this table, as from other sources, it appears

that the most argentiferous galenas are found in the districts of crystalline and metamorphic rocks.—Spain follows Great Britain as the next largest lead-producing country in the world. An extraordinary impulse was given to the development of her mines after 1835. It is stated that in 1826 more than 3,000 mines had been opened in the sierras of Gador and Lujar, and the increased production of lead was so great, that many mines in England and Germany were ruined. In 1823 the production was 25,000 tons, and in 1827 it had increased to 42,000 tons, causing a great decline in the price of the metal. In 1845 there were 826 mines of argentiferous galena in operation, employing 8,000 miners and 38 smelting works in the Sierra de Almagrera. The production of these mines in that year was 108,230 lbs. troy of silver, and 8,850 tons of lead. The ore was found in metamorphic micaceous slates, containing intercalated beds of trap and porphyry, and was disseminated in bunches lying in the lines of the stratification. These were most productive in

silver near the surface, the galena often yielding from 180 to 180 oz. to the ton. The ancient mines between Carthage and Almeria have within a few years again been worked, and much lead has been extracted from the immense piles of old Roman slags, and from the inferior qualities of carbonate of lead rendered refractory by its intermixture with blende and pyrites. Some of the most important mines were worked in the granite hills of Linares upon the southern slope of the Sierra Morena, and these have produced enormous masses of galena. Catalonia, Granada, and Murcia have productive mines, and also the district above the town of Canjajar. For 1847 and 1849 the production of Spain was rated at about 30,000 tons each year. The metal is largely exported to the United States, France, and the countries up the Mediterranean.—In Prussia about 7,195 tons of lead are reported to have been produced in 1851, together with 26,498 lbs. troy of silver, derived from argentiferous lead and copper ore. The mines are chiefly in Silesia and the Rhine provinces. The Hartz mountains are supposed to produce from 5,000 to 6,000 tons of lead and 30,000 to 35,000 lbs. of silver annually. The principal mines are near Clausthal in the Upper Hartz, where the veins are found most productive when split up and ramifying through the palaeozoic strata in narrow threads, constituting what the Germans call a *Stockwerk*. Such a repository of ore, known as Rosenhöfer Zug, a little west of Clausthal, spreads out through 800 feet in width. In the Andreasberg group of veins is that known as the Samson vein, on which is the deepest mine now worked in the world. Rich collections of ore found at a depth of about 2,100 feet led to the workings being continued to the depth of 2,520 feet. (See Hartz.) The skillful and economical methods applied to the treatment of the ores of this district render it profitable to keep mines in operation that would be abandoned in most other countries. The annual product of Saxony is said to be nearly 2,000 tons. Lead and silver are extracted in comparatively unimportant quantities in nearly all other European countries, but the product of none beside those named is estimated to amount to more than 1,000 tons of lead, except those of Austrian Illyria. For 10 years preceding 1847 her average annual product is put down at 3,258 tons, and the whole annual product of the Austrian empire during these years at only 3,887 tons, of which Hungary furnished 246 tons. The duchy of Nassau, having an area of only 82 German square miles, contains several hundred mines in operation, and among them about 80 of argentiferous lead, some of which have been worked since the year 1158. They are in argillaceous slates and sandstones of the silurian period. The annual product was a few years since stated to be about 600 tons of lead and 2,500 lbs. of silver.—In the United States, lead mines have been worked in the metamorphic rocks of the New England states, northern and eastern New York, Pennsylvania, and North

Carolina, and the chief ore, galena, is of frequent occurrence along the metamorphic belt of the Appalachian chain. But with the exception of the mine (also producing silver) in Davidson co., N. C., all these enterprises have proved unprofitable, and the mines have been abandoned, though some of them, as those of St. Lawrence co., N. Y., and possibly Shelburne, N. H., would have justified continued operations. The Coal Hill mine near Rossie, St. Lawrence co., in 8 years preceding 1889, is known to have produced about 1,800 tons of lead. It has been worked only to the depth of about 180 feet, principally by an open cut of the extreme length of 440 feet. The vein is nearly vertical in gneiss rock, and averages about 2 feet in width. The veinstone is calcareous spar, through which the galena and occasionally the earthy carbonate of lead is disseminated. Vugs or cavities frequently occur lined with splendid crystals of galena, and others of double refractive calcareous spar. One of the latter, nearly transparent, in Yale college cabinet, weighs 165 lbs. The galena contains but a mere trace of silver; it is also remarkably free from hurtful associations of other metals, as blende and iron and copper pyrites. Other similar veins are found in the same vicinity; and the time must come when they will be extensively worked. Detailed accounts of this and the other lead mines of the United States, most of which can be little more than named in this article, may be found in "The Metallic Wealth of the United States," by J. D. Whitney. At Southampton, Mass., lead mining was commenced in 1765 in an immense and very conspicuous true vein at the contact of the red sandstone of the Connecticut river valley and coarse-grained feldspathic granite. The lode consists of quartz containing sulphate of baryta, galena, some blende, and copper pyrites. Neither this nor the similar veins in Northampton and Easthampton have paid for the expenditures which at various times have been incurred in their exploration. At Middletown, Conn., the existence of lead ore was probably known in 1651, when a license was granted to Gov. John Winthrop to work mines of this and other specified mineral productions, with particular reference to any he might discover near Middletown. There is no tradition of the time when the mine was first worked. In 1852 it was reopened and worked to some extent. The ore is highly argentiferous galena, but not abundant. Shipments made to England yielded 25 to 75 oz. of silver to 21 cwt. of lead; and what was remarkable, a peculiar fine-grained variety of the ore, such as is usually found to be most argentiferous, proved to be only $\frac{1}{4}$ as rich in silver as the coarsely cubical ore. The vein consists chiefly of quartz, often in crystallized plates or combs, with some calc spar, sulphate of baryta, and fluor spar, also blende and iron and copper pyrites. It is from 10 inches to 8 feet in thickness, and is included in silicious and micaceous slates, with the dip and direction of which it

appears at the surface to coincide. In Dutchess co., N. Y., explorations were made for lead in 1740, and during the revolutionary war the committee of public safety sought to obtain supplies there. Veins of argentiferous galena are found also in Columbia, Washington, and Rensselaer cos., but have never proved productive. They traverse the strata near the junction of the metamorphic slates and limestones. The principal one is the Ancram or Livingston mine in Columbia co. On the other side of the Hudson river lead mines have been worked at various localities in the unaltered silurian limestones and sandstones; but these, too, have all been abandoned as unprofitable. The most productive among them were in the Shawangunk grit of Ulster co., which overlies the Hudson river slate group. On the W. slope of the Shawangunk mountain, at Ellenville, several nearly vertical veins have been followed into the hard sandstone, the strata of which and the direction of the mountain ridge they cross nearly at right angles. The principal one of these yielded in 1853 galena which produced about 459,000 lbs. of lead, and 60 to 70 tons of pyritous copper, 50 tons of which produced 24.3 per cent. of metal. The vein was unlike the true veins of the metamorphic rocks, having no gangue or veinstones, but wherever productive filled between the walls with rich galena and pyritous copper, the former sometimes being 5 feet thick unmixed with other matters. In places it contracted to a knife-edge seam in the hard sandstone, and again opened out in hollow fissures, one of which, extending to more than 100 feet in depth, with an equal horizontal range, has never been completely explored. It was partially filled with tough yellow clay, in which were imbedded loose fragments of sandstone, magnificent bunches of quartz crystals, and lumps of lead and copper ores; and its walls were also lined in places with the same ores. In these features a striking resemblance is exhibited to the so called "openings" of frequent occurrence in the western lead mines, although found there only in limestone. The vein is moreover like those of the western mines in lacking veinstones, and probably also in being limited to certain rock formations, beneath which it will not prove productive. But as the lead-bearing rock is there limestone, and as limestone overlies the Shawangunk grit, it will be interesting to trace the vein into the calcareous rock, which, concealed beneath the soil of the valley, cannot be far off. It is true that the lead-bearing rock of the West is somewhat lower in position than the Shawangunk grit; and the Niagara limestone that overlies this grit is not productive in lead at the West, although largely developed in the vicinity of the lead mines; hence nothing can be predicted as to the characters which the vein will assume in entering the limestone. Before reaching the western states the grit rock, like most of the other sandstones, thins out. Though the lead veins lack the character of

"true veins," they prove more productive for the amount of ground worked than those thus designated. This is the case with the Ulster mine, while the extent of the formation stretching up the side of the mountain for 1,500 feet, and below to unknown depths, with a thickness on the course of the vein probably exceeding 500 feet, insured abundant working ground for extensive mining operations. The extreme hardness of the rock caused the mining to be expensive; but though abandoned in 1854 as unprofitable, this is no doubt one of the lead mines of the Atlantic states the working of which will again be prosecuted.—In Chester and Montgomery cos., Penn., near Phoenixville, is a group of lead and copper mines, in a small district of only 5 or 6 miles in length by 2 or 3 in breadth, some of the remarkable productions of which have already been noticed. They occur in gneiss and the red shale and sandstone of the middle secondary, cutting the strata in direction and dip. Nearly all the veins, of which there are 12 or more, are parallel to each other, directed N. 82°–85° E. and dipping steeply S. E. When confined chiefly to the gneiss, they produce as a general rule lead ores; when included in the red shale, their principal product is copper ores. Quartz and iron pyrites make up the larger part of the lodes, the latter in the upper portions of the mine decomposed to a soft brown gossan. This material sometimes yields 10 oz. of silver to the ton. Prof. H. D. Rogers, from whose "Geology of Pennsylvania" these data are obtained, enumerates the following large variety of metallic constituents of the Wheatley lode, beside the gangue of quartz and sulphate of baryta: of lead—sulphate, carbonate, phosphate, arseniate, molybdate, chromate, chromomolybdate, arsenio-phosphate, sulphuret, and antimonial argentiferous; of zinc—sulphuret, carbonate, and silicate; of copper—native metal, sulphuret, black oxide, malachites green and blue; of iron—the oxide containing silver, pyrites, brown spar, and hematite; native silver; black oxide of manganese. Native sulphur is also met with. This mine was opened in 1851, and up to Sept. 1854, had produced, according to the manager's report, 1,800 tons of lead ore, principally phosphate, estimated to yield 60 per cent. lead. The Chester county mining company commenced operations in 1850 in the same vicinity, and up to Nov. 1851, had smelted 190,400 lbs. of dressed ore, almost exclusively phosphate, which produced about 47 per cent. lead. Dr. Genth found this kind of ore to contain 1.6 oz. of silver in 2,000 lbs.; the coarsely granular galena gave 16.2 oz., and the radiated and finely granular galena 11.9 oz. Operations ceased at these and the other adjacent mines in 1854 and 1855.—In S. W. Virginia and E. Tennessee many lead mines, not in the metamorphic belt, but in the great silurian limestone formation of the valley of Virginia, have been worked with greater or less success for many years past, their ores being compact and crystallized carbonate of lead as well as galena. Those belonging to

the Wythe union lead company on New river, Wythe co., Va., are known to have been productive in 1754. The workings in these have been carried to the depth of 190 feet, and the mines together with others in the vicinity are still in successful operation. All the mines of this region resemble in their geological associations and metallic products those of the western lead region. In 1855 the Wythe union lead mines were reported to have produced 500 tons of lead per annum.—The Washington mine, Davidson co., N. C., has attracted much interest on account of its being the only mine in the United States that has produced much silver. It was opened in 1886 in the silicious and talcose slates of the gold region, and, like most other veins of the metamorphic rocks of this region, has the strike and dip of the strata. There are two parallel veins worked together, which dip steeply toward the N. They are underlaid by a granitic rock, and above is talcose slate. The mine was commenced for the carbonates of lead, which were found in considerable quantity in a heavy dull ore of earthy appearance, and also in glassy crystals. Some galena and phosphate were also met with. It was not until after smelting large quantities of these ores that native silver was discovered, and the argentiferous character of the lead ores. In 1840, at the time the mine was visited by the writer, the display of native silver in arborescent forms and disseminated through the magnesian veinstones was very striking, and excited expectations of great richness at lower depths. Till 1844 the mine continued to produce largely rich argentiferous ores, after which the ores gradually diminished in quantity; the yield of that year is stated to have been \$24,009 of silver, and \$7,253 of gold, separated from 160,000 lbs. of lead, an average of 240 oz. of auriferous silver to 2,000 lbs. In 1851 the production was 56,896 lbs. of lead and 7,942.16 oz. auriferous silver, equal to 279 oz. to the ton of lead. Dr. Genth found the proportion of silver in the sulphurets very variable, running from 2.5 to 19.5 oz. to 2,000 lbs. From 200 assays an average of 7.5 oz. was found. In 1852 mining operations were stopped as unprofitable, but were soon after renewed and are still continued.—The great lead mines of the United States are what are called the upper mines on each side of the Mississippi river, in N. W. Illinois, S. W. Wisconsin, and Iowa; and the lower mines, found chiefly S. of the Missouri river in the state of Missouri. The former were discovered by La Sneur in his voyage up the Mississippi in 1700 and 1701, and were first worked in 1788 by a French miner, Julien Dubuque, who continued in possession of a tract of land upon which the city in Iowa bearing his name now stands, and worked the mines till he died in 1809. The United States acquiring possession of the region, leases were authorized of the mineral lands in 1807, but were not issued till 1822, and little mining was done till 1826. In 1839 a geological survey was made of the district by

Dr. D. D. Owen, under authority of the United States, for the purpose of designating the sections of mineral lands to be reserved from sale. In 1844, in consequence of the difficulties attending the collection of rents, the leasing system was abandoned and the mineral lands were entered for sale. The lead region, as reported by Dr. Owen, spreads over about 62 townships of land in Wisconsin, 10 in the N. W. corner of Illinois, and 8 in Iowa, extending in extreme distance W. from the Mississippi about 12 miles. It reaches N. nearly to the Wisconsin river, S. to Apple river in Illinois, and E. to the E. branch of the Pecatonika. The rock which contains the lead veins was designated by Dr. Owen as the "upper magnesian limestone," a term which was also applied to the Niagara limestone in its extension through the western country. Owing to the confusion this caused, Prof. James Hall in his report of the geology of Iowa, published in 1859, proposes the very appropriate name "galena limestone" for the peculiar calcareous formation in which the lead veins are almost exclusively found. Its position in the geological column is between the Hudson river group (some shales which obscurely represent this formation being recognized in Iowa by Prof. Hall, underlying the Niagara limestone) and the Trenton limestone, with the upper layers of which the lower layers of the galena limestone alternate. The formation is entirely western, not being recognized E. of Wisconsin. The rock is described as a gray and yellowish gray dolomite, generally coarse-grained, lying in thick strata, and containing few fossils, but in the middle portion flint nodules in layers and scattered. Its greatest thickness is found about Dubuque and between the opposite banks of the Mississippi and Fever rivers, before the formation is lost as it passes with the prevailing gentle dip toward the S. beneath the Niagara limestone; it here amounts to 250 feet, but the greater portion of the lead mines are in this rock where its thickness does not exceed 50 to 60 feet. Where the rock has its maximum thickness the lead veins are limited to its central and lower part, not approaching in their vertical descent much nearer the base of the formation than 50 feet. Where it thins out as it rises toward the N. the lower portion contains productive veins down to the blue limestone, and sometimes in this and the other calcareous strata; but no veins penetrate the sandstone, which lies beneath these. The upper portion of the formation is more argillaceous, less porous and friable, and comparatively free from open vertical joints and fissures, such as contain galena in the lower beds. Usually it caps over these productive fissures, and is hence commonly known as the cap rock. The class of veins containing the ores is described by Mr. J. D. Whitney, who was associated with Prof. Hall in the Iowa state survey, as "gash veins," being distinguished from true veins by want of continuity through the lower strata, and by want of veinstones. The crevices and fissures they occupy are sup-

posed to have been produced by a lateral shrinkage or other force, which caused the rock to be rent apart in parallel lines. These lines are for the most part nearly due E. and W. On their extension mining may be prosecuted for long distances, but in depth its range is evidently very limited. The galena is found in great purity, sometimes free from all associations of other ores, but sometimes mixed with zinc blende, and more rarely with iron pyrites. It contains but a trace of silver. Three modes of its occurrence are recognized, viz., surface deposits, vertical crevices, and flat sheets. In the first the ore is in the clayey loam of the prairies, left behind in fragments when the rock that contained it decomposed. It is called by the miners "float mineral," and when found indicates the proximity of deposits in the rock, and encourages "prospecting." This consists in sinking shafts into the rock, and driving across the presumed direction of the crevices. Miners are constantly engaged in this work, going from place to place till the discovery of a rich deposit rewards their search. In the natural sections along the cliffs that border the streams discoveries are most easily made; but under the deep soil of the prairies and the Hudson river shales that cover the elevated surface, rich crevices will remain concealed for centuries. In the vertical fissures the galena is found in a thin sheet attached to one or both walls, or separated from one or both by clay and ferruginous matter. It may be one or several inches thick, rarely a foot, and several may be so close to each other as to be mined together. The walls may maintain their parallelism for some distance, and gradually close up; or, as is often the case, they may suddenly separate and form what is called "an opening." This enlarged crevice is usually only in part filled with the loose materials left behind by the decomposition of the rock, as fragments of the walls, the remains of the strings, bunches, and sheets of ore, and the loose matters that have been introduced. These openings, of irregular dimensions, are usually from 4 to 15 feet in height, 4 to 10 but sometimes 40 in width, and have been met with several hundred feet long. They are sometimes repeated to the number of 5, one below another, but one alone is more common. In some of the openings conical-shaped cavities, called chimneys, are found running up to a point in the cap rock, and occasionally lined with layers of galena, calc spar, and clay. These cavities were apparently worn and dissolved out by water. Some noticed by Mr. Whitney near Dubuque, rising up from the roof of a barren opening, which was traced the unusual length of some 500 feet with a height of 6 to 8 feet, extend 25 or 80 feet into the overlying strata. Flat sheets are a form of deposit that may occur anywhere, proceeding from the vertical crevices; but they are chiefly limited to the lower part of the formation, and are even found in the Trenton limestone, as well as in the true lead-bearing rock. Features of distribution of the ore and of open-

ings similar to those already described distinguish this mode of occurrence of the galena, with the exception of the arrangement being horizontal and between the strata, instead of vertical and crossing them. Moreover, other ores, as blende and iron pyrites, and mineral substances like veinstones, as calc spar, or tuff, as the miners call it, are more commonly associated with the galena, the different materials arranged in layers, the lead ore often the lowest, and in case of an opening incrusting the roof with bunches of crystals. Crevices have been found taking a saddle shape by the portions each side of the centre gradually dropping down to lower strata. One of these at Mills's lode, near Harle Green, presented a flat sheet at top measuring 20 feet across, with 2 to 3 feet thickness of solid galena. On each side the mineral sheet dropped down, gradually diminishing in thickness, but presenting so far as exposed an area of nearly 100 square feet of ore, from which about 1,200,000 lbs. of galena had been removed, and large quantities more remained in sight. In various parts of the lead region are groups of productive mines, as in the vicinity of Mineral Point, Shullsburg, and other places in Wisconsin, Galena in Illinois, and Dubuque in Iowa. The last district for its area has probably produced the largest amount of ore, and the crevices are here found in greater regularity and more extensive in length and depth than elsewhere. From many of the caves, which extend several hundred feet on the course of the crevices, several million pounds of galena have been obtained. The Langworthy crevice, which has been worked in different places along a line of nearly $\frac{1}{2}$ of a mile, has produced, it has been stated, about 10,000,000 lbs. of ore. It usually presented 3 tiers of crevices, of which the upper one was the most productive; their width was often 15 to 20 feet, and the width of workable ground sometimes 40 feet. Several other crevices are noted, which have produced from 2,000,000 to 4,000,000 lbs. of ore.—The statistics of the yield of the mines have been imperfectly preserved. The following table of lead shipped from the Galena river mines for the years named is compiled from reports made to government, and from records kept in Galena; the amount of receipts from the sales is estimated at \$32,824,913:

Years.	Pigs.	Pounds.	Years.	Pigs.	Pounds.
1821 to '28	4,790	885,180	1842..	447,909	81,350,680
1824.....	2,508	175,220	1843..	568,261	89,148,270
1825.....	9,490	664,530	1844..	624,672	48,726,040
1826.....	18,700	956,542	1845..	778,408	54,494,850
1827.....	74,180	5,162,180	1846..	732,484	51,288,212
1828.....	158,655	11,105,810	1847..	772,556	54,685,930
1829.....	190,620	18,348,150	1848..	664,969	47,787,880
1830.....	119,060	8,828,998	1849..	628,934	44,028,850
1831.....	91,170	6,851,798	1850..	568,569	38,801,230
1832.....	61,164	4,281,876	1851..	474,115	38,188,050
1833.....	113,448	7,941,792	1852..	408,698	28,608,960
1834.....	118,648	7,971,579	1853..	428,814	29,806,950
1835.....	153,830	11,058,100	18 4 ..	423,617	29,638,190
1836.....	191,750	18,422,500	1855..	480,965	30,128,550
1837.....	219,380	15,855,900	1856..	495,654	30,485,790
1838.....	200,465	14,092,550	1857..	458,475	34,168,260
1839.....	357,785	23,044,950			
1840.....	317,845	22,249,150			
1841.....	458,168	32,071,410			
			Total	11,636,486	890,622,890

The most available crevices being worked out, and the greater attractions of the newly discovered gold region of California drawing the miners away, the production declined from a maximum of about 25,000 tons in 1847, till in 1853 it amounted to only 18,800 tons. Since that time, the transportation from the mines being in part by the railroads instead of altogether by the river as before, no exact record has been kept of the quantities. The following are given in the Iowa geological report as the amounts of lead received at Chicago and St. Louis for the years named; but to represent the actual production an unknown amount should be added for the home consumption, which has been largely increased by the establishment of white lead and shot works in the region:

Tons of lead received.	1852.	1854.	1855.	1856.	1857.
At Chicago.....	1,493	1,595	4,449	2,919	?
At St. Louis.....	14,948	10,128	2,757	6,076	6,847
Total.....	15,700	12,018	14,206	8,995	....

The sum given for the receipts at St. Louis in 1857 includes the receipts from the Missouri mines, which however are but trifling. A more complete table, including domestic receipts, foreign imports, and invoice value, will be given, after noticing the lower or Missouri mines. Little of the products of the western mines now reaches the Atlantic coast; in 1857 only about 100 tons arrived at New York. The seaboard is almost entirely supplied from the English and Spanish mines.—The Missouri lead mines were discovered and first worked in 1790 by Renault and his mineralogist La Motte, who came out with a large party under authority of a patent granted by the French government to John Law's famous company. Mine La Motte and the Potosi lead mines were discovered and opened by them; but little however had been done up to Renault's return to France in 1742. The only smelting of the lead ores appears to have been done on log heaps, a wasteful process, much practised even of late years. In 1798, as stated by Schoolcraft in his "View of the Lead Mines of Missouri," p. 19, Moses Austin of Virginia, having obtained a grant of land from the Spanish government near Potosi, sunk the first regular shaft, and erected a reverberatory furnace, and also a shot tower. According to the same authority, there were 45 mines in operation in Missouri in 1819, giving employment to 1,100 persons; in 1811 Mine Shibboleth produced 8,125,000 lbs. of lead from 5,000,000 lbs. of ore. From 1798 to 1816 Mine à Burton and the Potosi diggings were estimated to have produced over 500,000 lbs. annually; and from 1834 to 1837 the production of Mine La Motte is rated at an average of 1,085,820 lbs. of lead per annum. For 14 years succeeding 1840 Dr. Litton in his state geological report makes the annual average of all the mines over 8,883,121 lbs.; and yet in 1854 he thinks there were scarcely 200 persons engaged in mining, beside those employed at Perry's, Vallé's and Skew-

ers's mines. The most productive mines have been found in Washington co., but many others are met with in the S. E. part of the state. The geological formation in which they are chiefly contained lies below the Trenton limestone, and by Prof. Swallow is regarded as the equivalent of the calciferous sandrock of the New York reports, which appears to be here represented by a group of alternating beds of magnesian limestone and sandstone. The 2d and 3d of these limestones below the Trenton limestone have produced the principal supplies of the ore; and in some localities in the state lead is found in the coal measures, even in the coal beds themselves, and has been worked to some extent in the carboniferous limestone called the Archimedes or mountain limestone. The 3d magnesian is regarded by the Missouri geologists as corresponding to the lower magnesian of the upper lead region, which is there unproductive. The mines are frequently along the line of meeting of the limestone with granitic rocks, though in this position the deposits are either superficial or run between the calcareous strata, without penetrating the granite. Various other ores are found associated with the galena, as the carbonate of lead, called by the miners dry bone, white mineral, &c., the sulphuret and silicate of zinc, known as black jack, pyritous iron and copper, and at some of the mines, as Mine La Motte, carbonate of copper and black oxides of manganese and cobalt. The surface of the country in the lead region is strewn with crystallized quartz derived from the lead-bearing rocks, and called by the miners "mineral blossom." The modes of occurrence of the lead ore are generally the same as those already described as common to the northern mines. The openings on the vertical fissures vary from the capacity of a cubic foot to 10 or 12 feet square, and when very small are called pockets. They do not preserve a uniform course, but connect one with another by passages filled with material different from the walls, and extending toward every point of the compass. Vallé's mine in St. François co. and Perry's on its extension S. present a remarkable network of veins spread over an area of about 1,500 feet in length by 500 in breadth, ranging N. W. and S. E. They are also examples of mines of a more permanent character than are found in the northern lead legion. Vallé's mine was discovered in 1824, and it is believed has been worked ever since without interruption. There are 14 shafts upon it, and 8 more principal shafts upon Perry's mine. Of all these, only 2 are less than 50 feet deep; 6 exceed 110 feet, and one of them is 170 feet deep. They are in gravel and clay 10 to 30 feet, then in a light-colored silicious magnesian limestone, which passes below into another variety of very close texture and known by the miners as the cast-steel rock. Three series of caves are found, the 2d set 18 or 20 feet below the first, and the 3d about 8 feet below the second. The middle set has been most worked. They run out in every direction,

and in some instances communicate by chimneys with the series above or below. They are filled with clay, loose rock, and ore, the last often an intermixture of galena and silicate and carbonate of zinc, which requires roasting and washing to prepare it for the furnace. From 1824 to 1884 Vallé's mine, it is estimated, produced about 10,000,000 lbs. of lead, and about as much more in the next 20 years; Perry's mine about 18,000,000 lbs. from 1839 to 1854. These are remarkable instances of lead mining regularly prosecuted for so many years at one locality. But excepting at these and Skewers's mine there appears to have been little regular mining conducted in the state in 1854. Dr. Litton was of opinion that $\frac{1}{4}$ of all the lead obtained in Missouri had been from clay diggings overlying the rock. These operations have often been highly productive, but were carried on without system and without capital by men who had no interest or ability to prosecute the work in the rock, and thus the more permanent deposits have been passed over. The estimates of the production are based upon very uncertain data, no records for the most part having been preserved of the lead mined and smelted.—The table below, compiled for Hunt's "Merchants' Magazine," July, 1859, presents various data of interest relative to the lead business of the United States; but the production is imperfectly represented for late years by the figures in the second column, for the reasons that other outlets are now opened to the eastern market, and the consumption about the mines has largely increased:

Years.	Pig lead from American mines received at St. Louis and New Orleans, lbs.	Pig, bar, and sheet lead imported, lbs.	Invoice value of yearly importations.	Average rate of duty per 100 lbs.	Amount of white and red lead imported, lbs.	Invoice value of yearly importations.
1832	8,540,000	5,338,588	\$124,811	\$1.00	557,781	\$30,791
1833	12,600,000	2,282,068	60,660	3.00	625,069	36,049
1834	14,140,000	4,997,268	168,811	2.77	1,024,663	57,579
1835	16,000,000	1,066,472	35,663	2.77	882,215	50,225
1836	18,000,000	919,087	35,283	2.55	908,105	62,237
1837	20,000,000	835,772	18,571	2.57	509,950	47,316
1838	20,860,000	165,844	6,573	2.34	522,681	38,683
1839	24,000,000	528,222	18,631	2.31	721,408	50,905
1840	27,000,000	519,343	18,111	2.08	643,418	41,043
1841	30,000,000	62,246	2,605	2.07	632,122	31,617
1842	33,110,000	4,689	155	3.00	479,738	28,747
1843	39,970,000	290	3	3.00	93,166	5,600
1844	44,730,000	.....	.....	3.00	.....	.....
1845	51,240,000	19,609	458	3.00	231,171	14,744
1846	54,950,000	214	6	3.00	215,434	15,685
1847	46,130,000	224,905	6,285	56	298,887	15,223
1848	42,420,000	2,684,700	85,387	64	318,781	19,703
1849	35,560,000	.....	.....	.....	.....	.....
1850	40,313,910	36,997,751	1,182,597	64	853,463	48,756
1851	34,984,480	43,470,210	1,517,603	70	1,105,552	52,681
1852	28,593,180	37,544,588	1,283,331	70	842,521	43,865
1853	31,497,950	43,174,447	1,618,053	70	1,224,068	69,053
1854	21,472,990	47,114,140	2,093,039	90	1,865,893	102,512
1855	21,441,140	56,745,247	2,556,223	90	2,319,099	134,855
1856	15,347,880	55,294,256	2,528,014	91	3,545,409	174,125
1857	14,028,140	47,447,693	2,305,765	71	1,793,377	113,075
1858	21,210,420	41,280,019	1,972,248	72	1,755,531	109,426

The imports of lead into the United States in the year ending June 30, 1859, amounted to about 64,000,000 lbs., valued at nearly \$2,700,000. About 1,140,000 lbs., valued at \$57,000,

were reexported to foreign countries. The exports of American lead were valued at about \$30,000, beside a small quantity of manufactured lead.—*Metallurgic Treatment.* As lead ores are ordinarily received from the mines, they require preparatory treatment for the furnace. The earthy matters adhering to them, as clay and sand, may be washed away by exposing the ores to a current of water; but before the intermixed gangues and foreign ores can be separated, the lumps must be reduced to small fragments, and the fine materials be subjected to a systematic dressing by the process of jigging or other convenient methods of sorting materials according to their different specific gravities. The coarse lumps may be reduced by hand upon an iron-top table with the so called bucker, a thick cast iron plate with a face 8 inches square and a socket on the upper side for a handle; or they may be passed through the crushing rolls, of which two or more pairs are commonly employed, one set above the other. After the ores have been dressed and sorted into heaps, it is the practice at some of the European smelting establishments, as in Cornwall, to roast at a moderate heat about one half of each heap in a special calcining furnace of the reverberatory class. The effect of this is to produce considerable quantities of sulphate of lead, which is more fixed in the smelting furnace, and consequently diminishes the loss that would be experienced by volatilization of the sulphuret. Being then mixed with the unroasted sulphuret and subjected to the heat of the smelting furnace, one equivalent of sulphate and one of sulphuret afford just 2 equivalents of lead and 2 of sulphurous acid, the last escaping; thus, $PbO, SO_2 + PbS = 2Pb + 2SO_2$. Hence the best results are obtained when the two compounds are in equal atomic proportions. If the sulphate is in excess, sulphite of lead will be formed and remain unreduced. As smelting is conducted in the reverberatory furnace, the roasting is effected upon the surface of the charge; and when it has proceeded sufficiently far, the whole is stirred together and subjected to the reduction heat. In the blast furnace, as the operation is conducted in this country, the smelter seeks to attain the same end by a surface roasting with each addition to the charge before putting on the blast. Two kinds of furnaces are employed in the United States for smelting lead ores, the reverberatory and the Scotch hearth. Beside these, a small high or blast furnace is used in some parts of Europe for silicious refractory ores. Reverberatory furnaces are constructed on the general principle of those described for smelting copper ores or puddling iron. Those for lead have a shallow basin-shaped hearth, the greatest depression beneath the arch being about 2 feet. The aperture into the flue is only about 6 inches high, and the space over the fire bridge is 14 inches. The dimensions, however, vary in different districts. The sole is about 8 feet in length by 6 in breadth, and formed of the slags of previous operations. The charge is supplied

through the top by a hopper, and, being immediately spread over the hearth, is afterward worked through apertures in the side, by which air also is admitted as required. On one side holes are also made for the scoria and metal to flow out; or, as at the western mines, the discharge may be at the extreme end, the hearth being made to slope from the bridge. The charge varies in different countries; in Derbyshire and near Alston Moor it is composed of several varieties of ore suitably mixed, and weighing about 2,000 lbs. and sometimes 2,500 lbs.; in Wales it is from 20 to 24 cwt., and in Wisconsin from 45 to 60 cwt. In Yorkshire 7½ cwt. of bituminous coal are consumed to the ton of lead, and the smelting of each charge occupies 5 to 7 hours. A common allowance of fuel is ¼ ton to the ton of lead. In Wisconsin the working through one charge occupied 9 hours, with the consumption of one cord of wood and the production of 5,250 to 5,810 lbs. of pig lead. The slag produced by these furnaces is rich in lead, and is saved to be treated by other processes. In the operation the heat is very slowly brought up if the ore has not been previously roasted, and the furnace is kept close, with a small aperture only open for the air to enter. In a short time the charge becomes heated and the sulphur slowly consumes. The operation of rabbling or stirring over the materials is then commenced, and continued at intervals for nearly 2 hours. The skimmings of the receiving pot and any rich slags are thrown into the end of the furnace furthest from the fire, and soon cause a separation of metal as they react upon the roasting ores; this metal is occasionally drawn off. Some coal is usually worked into the molten mass to aid the reduction and protect the metal from oxidation. In England, after the roasting process is far advanced and the rich slags introduced have been partly smelted, the doors are all opened and the charge is allowed to become partially cool. To this soon succeeds the second stage or "firing," the first being the roasting. In half an hour the furnace becomes red-hot and the materials begin to flow. The working doors are then opened and the charge is pushed back and spread out, and quicklime is spread over the surface, the effect of which is to thicken or "dry up" the slags, and protect the metal from oxidation, but more especially, in case of the ores being silicious, to break up the compound formed of silica and oxide of lead and set the latter free. Another partial cooling and subsequent firing succeed, and these processes continue to be repeated, till in about 4½ hours the tap hole is opened for the flow of the metal, the slag floating upon it being pushed back to be further treated by renewed melting, or to be dried up with quicklime and taken out from the door in the opposite side of the furnace. Six hours are consumed in the whole operation, thus allowing a succession of 4 every 24 hours; though for a week's work 16 charges are sometimes admitted, and 22 are a maximum. Better results are obtained by this

slow and interrupted process than by more hurried ones, the yield being 75 per cent. or more of lead. From the rich galenas of Wisconsin it was formerly thought that no more than 65 per cent. could be thus obtained, the remainder going with the slags, the principal bulk of which as in England were afterward worked over in small blast furnaces or slag hearths. These employed at the West are in fact nothing more than large crucibles built in brickwork open at top, with an aperture in the back for the tuyère, and another at the base in front for the metal after it is separated to run out into the receptacle made in the ground in front of the furnace. The cinder flows out also with the lead and floats over its surface into a second receptacle. The separation, however, is generally far from being completely effected. The fuel employed is charcoal. —The common blast furnace or Scotch hearth is a cheap, convenient, and easily managed furnace, much used at our own mines and in the northern part of England. In its improved form with the hot blast arrangement, as introduced in the United States, and furnished by some of the iron foundries ready to be set up, it is a cast iron box about 2 feet square and one foot deep, open at top, with the sides and bottom 2 inches thick. A sloping shelf, called the hearth, is attached to the front edge for the lead to flow down, and for holding the materials of the charge when these are occasionally spread out in the course of working the furnace. Over the reservoir is fitted a cast iron chest, open in front and at top, with sides and back about 14 inches high. These are made hollow, the iron walls ¼ inch thick enclosing a space of 4½ inches. The blast is made to enter at one side, and passes out at the other by a pipe, which bends round and enters the tuyère set in the back of this chest, 2 inches above the top of the reservoir. When in use this reservoir continues full of melted lead, and the excess as produced from the charge floating upon it flows down the hearth into the pot set to receive it. Under the pot a small fire is kept up, so that the lead may be ladled from it as convenient into the moulds. The furnace is kept in continual operation by introducing new charges about every 10 minutes, and working them down as they become roasted at the surface. Before adding more ore the blast is turned off, and the charge already in the furnace is drawn forward on the hearth. Billets of light dry pine wood are then thrown in against the tuyère, and the charge is thrown back with the addition of fresh ore upon the wood. The blast is then let on again, and in a few minutes the charge is stirred over. It is advantageous to use a blast with more pressure than that obtained from the fan; cast iron blowing cylinders are the most effective. No other fuel is required but light pine wood; but in England bituminous coal is used. The combustion of the sulphur in the ore produces a large portion of the heat required. Fluor spar is sometimes used as a flux, and also blacksmiths' cinders and bits of iron, the effect of

which is to desulphurize the galena by the affinity of the iron and sulphur. The inner walls of the air chest would be rapidly destroyed by the sulphur, but for the cooling effect of the air driven behind them; this also tends to keep them of uniform temperature. In smelting about 5,000,000 lbs. of lead at Rossie with this class of furnaces, the consumption of fuel was less than $\frac{1}{2}$ cord of wood to 2,000 lbs. of lead. Each furnace produced an average of 7,500 lbs. of lead every 24 hours, employing 2 lead smelters and 2 assistants, or one of these every 12 hours. The cost for wood was \$1.50 and labor \$5 — \$6.50, or \$1.75 per ton. In Wisconsin, before the use of the hollow air chest, the expense of one furnace shift, continuing till 80 pigs weighing 2,100 lbs. were produced, and usually occupying 8 to 10 hours, was about \$4 for labor and \$1.50 for fuel, charcoal and wood, both of which bore a very high price in the prairie region. In England the ore for the Scotch hearth is first roasted in a reverberatory furnace. In the Hartz mountains and some other parts of Europe poor silicious galenas are sometimes smelted in small blast furnaces, measuring about 8 feet across inside, and 20 to 28 feet in height, and surmounted by flues, which are made to wind up and down in the masonry for the purpose of arresting the metallic portions of the escaping gases. Such ores cannot be treated like pure galenas to afford first a sulphate, which shall react upon the sulphuret; for the silica would seize upon the oxide of lead of the sulphate and form with it a refractory silicate. A flux therefore is employed of metallic iron, in the form of scales, cinders, or of cast iron obtained by heating up the cinders from iron smelting furnaces. The charges are complicated mixtures of ore, containing about 24 per cent. of lead, various furnace products as scoriae and litharge, and finally the granulated iron or scales, all properly apportioned according to their chemical composition and the reactions required.—Considerable loss is experienced in smelting lead ores from the tendency of their particles to escape in the form of white fumes or lead ashes, that are seen pouring out from the chimney flues. Not only is a loss of lead thus occasioned, but serious injury is done to the vegetation around, and the cattle and dogs in the neighborhood are sometimes destroyed. An interesting paper upon this subject was read by Dr. George Wilson to the royal society of Edinburgh, and published in the "Monthly Journal of Medical Science," May, 1852. He had been called upon to investigate the cause of the death of 18 horses and a number of cows, supposed to have been poisoned near some lead furnaces, and had found the herbage and the water drunk by the animals impregnated with carbonate of lead; and the metal was detected in the organs of the body, especially the spleen, which Dr. Wilson suggests is the most convenient organ to submit to this examination. Attempts have been made to remedy the evil by conducting the fumes brought together from the different furnaces through

chambers, in which they are cooled and condensed by showers of water. But these arrangements, as also drawing the gases through cold water to cause the metallic compounds to be retained, involve obstructions to the draft, and require exhausting machinery at the extreme end to supply its place. At the great exhibition of 1851 a model of the apparatus of the duke of Buccleuch, in use at his works in Dumfriesshire, was exhibited, the original of which had proved perfectly effectual in saving the lead and preventing all the evil effects consequent on the escape of the fumes. The arrangement however is costly, and adapted only to large establishments. The water used for showering is conducted into tanks in which it deposits the metallic particles it takes up. The specimens of lead ashes thus recovered were said to contain about $\frac{1}{2}$ their weight of pure lead, and nearly 5 oz. of silver to the ton.—Lead varies much in purity, according to the ores from which it is obtained and the methods of reduction adopted. Generally it is more pure the lower the temperature at which it is smelted; but some ores are intermixed with iron pyrites, blende, and sulphuret of antimony, to such a degree that more or less iron, zinc, and antimony remains alloyed with the lead, seriously injuring its quality, especially for the manufacture of white lead, and also increasing its hardness. In some of the European works special methods of purification are found necessary after the metal has been obtained. It is not so with American lead, the quality of which is remarkable for its softness and purity. Spanish lead received in the United States is not so good, but is better than the English. Silver accompanies most of the foreign ores, and is very commonly present in European lead in sufficient quantity to render its extraction profitable. The method of effecting this was formerly to melt the lead upon cupels placed in reverberatory furnaces, and, by a current of air playing over the surface of the metal, convert it into litharge or oxide of lead till the silver remained behind. This operation was hardly remunerative with lead yielding less than 10 oz. of silver to the ton. The large cupels used in extensive refineries are made in an iron frame usually of oval form, the outer rim being an iron bar $\frac{1}{2}$ inch thick and 4 inches wide bent around and the ends welded together. The larger diameter may be 4 feet and the lesser 2 $\frac{1}{2}$ feet. Cross bars of iron support the pounded bone ashes, mixed for the best cupels with $\frac{1}{4}$ their bulk of fern ashes or $\frac{1}{3}$ their weight of pearl ashes, or for common cupels with very fine cinders. When the pigs of lead are thoroughly melted upon one of these cupels, a strong current of air is blown over the surface in the direction of the longer diameter, and the oxide of lead, as it is formed, is swept on over the further edge of the cupel and falls into a receptacle conveniently placed for its removal. In the Hartz, at Clausthal, the refining is done directly upon the floor of the reverberatory furnace, which is specially

prepared for the purpose. The upper layer, which is of marl, or, as in some establishments, of 4 parts of leached ashes and one of lime, is beaten for 2½ hours; and soon after this it usually requires renewal at every fresh charge, the material mixed with litharge going back to the smelting furnaces. The charge varies from 4 to 8 tons. After about 8 hours it is melted, and the surface is covered with impurities that were mixed with the crude lead and are called *Abzüge*. These being raked off, the blast is let on the surface, and grayish colored infusible oxides, called *Abstriche*, collect, which the workmen remove every half hour or so. A stick of green wood occasionally thrust into the melted bath facilitates their separation. As the heat increases more oxide of lead is produced, so that it gives a fusible character to the materials that collect on the surface, and they begin to flow down the channel prepared for them, which the workman keeps clear. The first products are still impure, and are known as black litharge. Gradually they assume the red or yellow colors of merchantable litharge; the former are more valued, and result from longer exposure to the air before cooling. When only 4 or 5 per cent. of the charge remains, the litharge is reserved to be treated again for silver. In the course of 20 hours, or in case of the larger charges of 80 hours, the sudden brightening takes place which marks the close of the operation. The oxidation as it went on was a process of combustion, increasing the brilliancy and heat of the metallic bath; but when the lead has nearly disappeared the brilliancy and heat diminish and the surface is comparatively dull. Toward the last a thin pellicle of melted litharge dances rapidly over the surface, displaying a constant succession of bright colors with its varying degrees of oxidation. All at once it bursts away, and leaves the brilliant surface of the melted silver exposed to view. The current of air is then stopped, and water is cautiously added to the cake of silver to cool it. This retains a little lead, which is afterward separated by another cupelling on a smaller scale. A variety of products are obtained by the cupellation above described. The *abzüge* and *abstriche*, the rich litharge, and the cupel bottoms are melted over for recovering the lead; the merchantable litharge is either sold as such or reduced to metal, and the black litharge is reduced by itself with charcoal; it produces an inferior quality of lead mixed with antimony, fit only for the manufacture of shot or of type metal. The loss of lead in the whole operation is from 4 to 8 per cent.—A process by which silver may be separated with economy from lead containing even the small quantity of one or two oz. per ton was discovered quite accidentally by Mr. H. L. Pattison of Newcastle-on-Tyne, about the year 1829, and has been very successfully adopted throughout Great Britain, France, Spain, and Prussia. It is known as the crystallizing process, and is founded on the principle that the melted argentiferous lead, being occasionally stirred while cooling, forms

small crystals which contain much less than their proportionate weight of the silver in the whole mass, and may be removed, thus enriching the portion that remains. In the operation in the large way any number of cast iron pots are set in brickwork conveniently for heating; each may hold 4 or 5 tons of lead. The middle one being charged, and the lead melted and stirred with an iron instrument, the fire is removed to the next pot to the right, and into this the crystals of lead as they are produced are removed by a perforated ladle, care being taken to shake back into the first pot all the fluid metal. The ladle is kept up to greater heat than that of the lead by occasionally immersing it in a small pot of lead placed over a constant fire. About ⅓ of the charge are removed from the 1st pot to the 2d, and the remaining ⅔, which retains the principal portion of the silver, is ladled into the next pot to the left. The middle pot is again charged, and the process is repeated; and when the 2d pot has received a full charge the same operation is commenced with it, ⅓ going forward to the right, and the last ⅔ coming back to pot No. 1. Thus all the pots become at last filled, the portions poorest in silver working furthest to the right, and the richest toward the left; the former are turned at last into the moulds, and the latter, concentrated no further than about 800 oz. to the ton, being cast into bars about 2 inches square. These are known by the name of "lead riches." They are finally subjected to cupellation in a reverberatory furnace specially constructed for the work. At one establishment in England, that of Messrs. Walker, Parker, and co., the cupellation is conducted to the removal of all traces of lead, and the litharge is pure oxide of lead, with the exception of 0.3 to 0.4 per cent. of oxide of iron. The weekly product of their works is 6 to 8 bars of silver, each weighing 1,000 oz. The litharge not sold as such is mixed with fine coal and reduced in a reverberatory furnace, the hearth of which is covered 3 inches deep with slack or fine coal. The crystallizing process is especially adapted to the treatment of very poor argentiferous lead. The rich are better cupelled at once. It is not adapted for impure qualities of lead, because the impurities are not removed, as they are by the German process described above. It is also sometimes more profitable to convert the lead into litharge than to sell it in metal.—*Manufactured Articles.* The principal uses of lead uncombined with other substances are for sheets, pipes, and shot. The Chinese manufacture thin sheets for lining tea chests by simply pouring the melted metal upon a large, flat, and very smooth stone, while a second workman applies upon the fluid sheet another flat stone which he forcibly presses down. A thin leaf is thus obtained, which is immediately removed, and the process is repeated with extraordinary rapidity. The ragged edges are finally trimmed and the sheets made into bundles. Sheet lead is made by two methods. By the old way a stout

table 15 or 20 feet long and 5 feet wide is made perfectly level and provided with a raised margin. It is covered with fine sand, and over it is suspended a long trough, which when filled with melted lead is upset upon the table. The surface is then "struck" by two workmen, one on each side the table moving forward from one end to the other the wooden strike, which rests upon the raised sides, the middle portion of it projecting down far enough to leave the required thickness of lead, as the surplus is pushed over the foot of the table. Sheets thus made are considered less liable to contract and expand by change of temperature than those prepared by the newer method, which is as follows: the metal is cast in a plate 6 or 7 feet square and 6 inches thick, and when cooled enough to admit of being moved is lifted by a crane and placed upon the bench called the rolling mill, the floor of which, 8 feet wide and 70 to 80 feet long, is made of wooden rollers arranged parallel to each other and across the length of the bench. In the centre of the bench are two iron cylinders 16 inches or more in diameter, one above the other, the top of the lower one level with the top of the wooden rollers. They are turned with great accuracy, and so arranged that by screws their distance apart may be regulated; they are also so geared that they may be made to rotate one way or the other as desired. The plate is immediately run through the rollers, and the motion being then reversed it is passed back; and thus it is kept going, the rollers being gradually brought nearer together. When the sheet becomes inconveniently long it is cut in two, the operation being completed with each piece separately. In passing through from 200 to 300 times the length may be increased from 6 or 7 feet to 400 feet, the breadth being 7 feet. At the Dee Bank works the rolls are 8 feet 4 inches long and 22 inches in diameter, and the sheets are sometimes reduced to $\frac{1}{4}$ of an inch in thickness. Sheet lead made by this method is distinguished by the name of "milled lead."

—Lead pipe also is made by two methods. The old mode is objectionable for the reason that the length of the pipe is limited to 20 or 30 feet. A short thick cylinder is first cast of the exact bore required, and this is drawn out between suitable rolls, a long steel mandrel being kept in the portion passing through the rolls. By the improved method a hydrostatic press is employed to force the melted lead through dies of the required sizes. The press is under the floor, through which the piston passes, entering a strong upright metallic cylinder. This can be filled with lead as required by a spout in the top, and the spout can be then closely shut. The cylinder is kept to the temperature of melting lead by an annular fireplace or receptacle for live coals by which it is surrounded. Connected with the top of the cylinder is a steel die of the diameter required for the outside of the pipe, and through its centre passes from the centre of the piston below the mandrel which determines the diameter of the bore. As the piston is

driven upward, the lead in the cylinder is forced through the annular space between the fixed collar or die and the mandrel, and emerging above cools in the form of a finished pipe, and is immediately coiled upon a drum suspended above the apparatus.—Lead shot might with propriety be classed among the alloys of lead, for though sometimes made of simple lead of inferior quality, the metal is very commonly combined with arsenic, introduced in the form of white arsenic (arsenious acid) or of orpiment (the sulphuret). The effect of the arsenic is to render the hard, brittle qualities of lead, which are contaminated by antimony and iron, softer and more ductile, and of the proper consistency, when melted and subjected to the usual process in shot making, for taking the globular form. The more ductile the lead the less arsenic is required, but hard lead requires 10 parts or more of arsenic in 1,000. When the lead to the amount of 2 or 3 tons in a pot is melted, a circle of ashes or powdered charcoal is laid around the edge of the metal, and the arsenical compound is introduced in the centre and stirred in. The pot is then covered and the lid luted down and left for some hours, during which time the arsenical compound is decomposed, and the arsenic combines in part with the lead, and a portion mixes with the litharge that is produced by the reaction when white arsenic is used. The mixture is then tested by dropping a portion of it through a cullender into water. If the particles assume a lenticular form, the arsenic is in excess; if they are flattened on one side, hollowed in the middle, or elongated, too little arsenic was used. When properly dosed it is run into bars, which are raised to the top of the shot tower to be there melted and poured through the cullenders. These are either hollow hemispherical iron disks or rectangular flat sheets, each one perforated with a set of holes of uniform size, made perfectly smooth and exact. The lead when poured must be of the proper temperature for the special size to be made, and the workmen are careful to keep a film of the oxide as a lining to the cullender, which is thought to have the effect of increasing the rotundity of the shot, possibly by expediting its cooling as it passes through. The holes vary from $\frac{1}{16}$ to $\frac{3}{16}$ of an inch, but the shot are of larger diameter than the holes. In falling to the base of the tower the particles of semi-fluid lead, acted upon alike over their whole surface by the current of air, are made to assume the globular form, and by the time they reach the bottom they are sufficiently hardened by cooling to bear the shock of striking the surface of the vessel of water placed to receive them. Large-sized shot require a greater height than small-sized, and while 100 feet is sufficient for the latter, the former will require 150 feet. Dr. Ure notices a shot tower at Villach in Carinthia, 249 feet high, as the highest erection of this kind. Taken from the cistern of water, the shot are dried, then assorted according to their sizes by sifting

them in a revolving copper cylinder set slightly inclined and perforated with holes, which increase in size toward the lower end. The smaller sizes thus drop through above and the larger lower down, and each size is received in its own box. The shot receive their superficial finish by being left for some time in a rotating cylinder with some pulverized graphite. Imperfect shot are separated from the truly spherical by allowing them to roll down an inclined plane, so arranged that the latter run straight down the middle and the former work off to one or the other side. A method has been patented in the United States of manufacturing shot without the high towers, substituting for them a low elevation up which a powerful current of air is blown, thus producing the effect of a long continued fall.—Mention has frequently been made of the oxides of lead produced in the metallurgical operations described. Four compounds of lead and oxygen are recognized, but 2 only are of practical importance. The one called litharge is the protoxide of the metal (PbO), its chemical equivalent 111.57, specific gravity 9.2–9.5. When obtained at a temperature below that required to fuse it, the oxide is in the form of a yellow powder, and is known as massicot. Common litharge ground to fine powder is also yellow; if it have a red hue, this is owing to admixture of the red oxide or minium. Litharge fuses at a temperature above redness, and crystallizes in semi-transparent scales on cooling. It is slightly soluble in pure water, and the solution is feebly alkaline. It is the only oxide of lead which forms salts of this metal with acids. Uniting with the weakest organic acids to form definite compounds, it is of great service in chemical analysis. It absorbs carbonic acid from the atmosphere; and when in solution the oxide is thus converted into an insoluble hydrated oxycarbonate. Its use in the arts depends upon its properties as a pigment, also of forming vitreous compounds when melted with the earths and boracic and silicic acids, whence its application in the glass and earthenware manufactures, and again of causing oils to dry rapidly. Dissolved in lime water, it is sometimes used as a hair dye; the lime softens and partially decomposes the hair, and the lead uniting with the sulphur in the hair forms a permanent black stain of sulphuret of lead.—Minium or red lead is a compound of the protoxide commonly with the peroxide, represented by the formula $2PbO, PbO_2$; it is not however of uniform composition, though possessing always the characteristic red color and other peculiar qualities. It is the object of an especial manufacture, and for its preparation the purest lead is selected; for the foreign metals commonly present in lead would seriously impair the brilliancy of the color which gives to minium its value. The lead is melted in a reverberatory with a bottom of very large area at the lowest temperature, and is carefully converted into massicot or litharge, a process which occupies about 22 hours. When completely oxi-

dized, the yellow powder is removed to another furnace like the first, and there exposed to a carefully regulated heat between 550° and 600° F., which is below dull redness. Air is freely admitted, and fresh surfaces are frequently exposed to its influence. In 48 hours it has acquired a beautiful bright red hue. It is then finished by grinding between iron surfaces. Minium is a valuable pigment, and is largely used in the paper-hanging manufacture for giving orange and rose colors. It is the coloring matter in red sealing wax and various other artificial red compounds. It is preferable to litharge in the glass manufacture on account of its excess of oxygen, which may remove any combustible matter present, and also convert the protoxide of iron into the peroxide.—One of the most important applications of lead is in the manufacture of the carbonate, so extensively used as a white paint, and also as a body for other colors. This special branch will properly be treated under the title WHITE LEAD.—*Poisonous Properties of Lead Salts.* The soluble salts of lead possess highly poisonous properties, and they are the more dangerous from the insidious and unsuspected ways by which they are introduced and accumulate in the system. When taken into the stomach, lead is inert so long as it retains its metallic form; it begins to produce its effects only when it is oxidized. In this way bullets have been swallowed and have passed with impunity through the digestive canal. The preparations of lead vary greatly in their intensity of action, though their effects as poisons are similar; the semi-vitrified oxide (litharge), the carbonate (white lead), and the diacetate (Goulard's extract) are the most active. The sulphate, from its great insolubility in the digestive fluids, is almost if not quite inert. From the extensive use of lead in various manufactures, a great many persons are necessarily subjected to its influence. Cases of lead poisoning are common among painters, plumbers, the manufacturers of glazed cards, and those employed in the glazing of earthenware, and in the bleaching of Brussels lace, which is beaten with white lead to whiten the fibre; plumbers, who work chiefly in metallic lead, suffer very much less than other artisans who employ its oxides or salts. The susceptibility to the effects of the poison varies greatly in different persons. Some are able to follow their occupation as house painters or in manufactories of white lead without suffering materially, while the writer has known an instance where, after careful inquiry, a severe case of lead colic in a fishing-tackle maker could only be traced to his chewing bits of metallic lead, which he chipped off while engaged for a few days in making sinkers. Among artisans who use it in their work, lead is introduced into the system either by the air passages or by the digestive organs; it is inhaled in fine dust, or it is swallowed. In this way, carefully washing the hands previous to meals is of great importance as a preservative from its effects. Lead is often introduced into

the system accidentally or as an adulteration in the manufacture of various liquors. The old name of lead colic, *colica Pictorum*, colic of Poitou, arose from the prevalence of colic there produced by its use in the manufacture of wine. Devonshire colic was traced by Sir George Baker to the use of lead in clarifying cider; the dry bellyache of the West Indies arose from its use in the distillation of rum. Many glazed articles of earthenware, when acted on by acids, give up the lead contained in their glazing. In Nos. 10 and 11 of the *Medicinische Zeitung*, published by the medical society of Prussia (1859), a case is cited of lead poisoning produced by snuff, and upon an analysis of the snuff by Höckel it was found to contain $2\frac{1}{2}$ per cent. of lead. Snuff packed in lead foil, it is found, always contains lead, while that in bottles or jars is free from it. The wrappings of lead foil when the package of snuff is first opened often exhibit an incrustation resembling mould, which is carbonate of lead. The lead foil is frequently tinned on one side; but this proves to be a very insufficient protection, as it is often corroded through, and the workmen are sometimes so careless as to put the tinned surface outside.—There are four distinct affections produced by lead: colic, arthralgia, paralysis, and brain diseases or encephalopathy. Of these, colic is by far the most frequent, it having occurred in 2,171 of the 2,171 cases of Tanquerel des Planches (*Traité des maladies de plomb*, Paris, 1839), while arthralgia occurred in 755 cases, paralysis in 127, and encephalopathy in about 72. Lead is essentially a chronic poison. It is most commonly taken into the system in small and repeated doses; occasionally, however, one of its salts, commonly the acetate, has been taken in a single poisonous dose, either by accident or for the purpose of committing suicide. In this way from $\frac{1}{4}$ ounce to $1\frac{1}{4}$ ounces of sugar of lead have been repeatedly swallowed. The symptoms have commonly been metallic taste in the mouth, burning pain in the stomach, nausea, and vomiting; to these succeed pain in the abdomen. Sometimes the patient is purged; often there is obstinate constipation. These symptoms may subside in a day or two, or may last for 10 or 12 days, combined with a feeble circulation, numbness, and prostration. Sometimes colic supervenes. In chronic poisoning by lead, the skin is dry and of an unhealthy earthy color, the pulse is slow, the secretions generally are diminished, the bowels constipated, and the patient loses flesh and strength. When the gums are examined, a blue line is generally found on their free margin at its junction with the teeth, particularly the incisors; occasionally the mucous membrane lining the lips and palate has the same bluish color. If the patient be now attacked by lead colic, he is conscious of a sensation of pain and sinking, which he refers to the centre of the abdomen. The bowels are obstinately constipated; there is constant pain in the belly, aggravated in paroxysms, and relieved or not increased by pres-

sure. The walls of the abdomen are hard and sometimes retracted; there is often nausea and vomiting; dysuria is sometimes present, and the patient is exceedingly restless, sleepless, and anxious. Notwithstanding the gravity of the symptoms, the tongue is clean or but slightly coated, the skin cool, the pulse regular, and perhaps a little slower than natural. Left to itself, the disease is of uncertain duration, but under proper treatment it is ordinarily subdued in a few days; the patient, however, is subject to relapses, and when he remains exposed to the original cause of the complaint, the colic gradually becomes complicated with palsy, or perhaps it is terminated by a fatal affection of the brain. Where death has taken place, post-mortem examination shows no special lesion; but in this as in other varieties of lead poisoning, chemical reagents detect the presence of the metal in the blood and the tissues of the body. In the treatment of lead colic purgatives are mainly to be relied on. A drop of croton oil may be given every 6 hours until the bowels are freely moved, or a single full dose of calomel may be followed by an infusion of senna with sulphate of magnesia. The warm bath and copious enemata of warm water have been found serviceable, and anodynes, as opium and belladonna, are often employed to relieve the extreme pain under which the patient suffers. The purgative treatment has commonly to be persisted in for several days before the complaint finally yields.—In lead arthralgia, beside the general symptoms of chronic poisoning, the patient suffers from paroxysms of sharp, darting pains, commonly in the limbs, but sometimes in the trunk; these pains do not follow the course of the nervous cords, and they are increased by motion and diminished by pressure. In the intervals of the paroxysms the patient suffers from a sense of fatigue and constriction in the affected parts. Sulphur baths given daily for 7 or 8 days form the most efficient method of treatment. It would seem, according to the experiments of M. Melsens, that iodide of potassium administered internally has the power of eliminating lead from the system in cases in which it exists; and Vallex has found this remedy particularly efficacious in lead arthralgia. It may be given in doses of from 6 to 10 grains 8 times a day.—Lead paralysis is very rarely general; commonly it is confined to either the upper or lower extremities, and in these to one system of muscles. In 5 cases out of 6 the upper extremities alone are affected, and the paralysis is limited to the extensor muscles of the hand and wrist, the hand remaining permanently flexed, giving rise to the "dropped wrist." The muscles have lost their contractility, become wasted, and in bad cases after death look pale and as if converted into fibrous tissues. Often the paralyzed parts have more or less lost their sensibility; sometimes this loss of sensibility (lead anæsthesia) occurs independent of paralysis of movement. Lead palsy is rarely a primary affection, lead colic or arthralgia commonly pre-

ceeding it. Its progress is slow, and in well marked cases the results of treatment are somewhat uncertain. The internal use of iodide of potassium for the purpose of eliminating the poison, the employment of small doses of strychnia, of electricity, and of friction to stimulate the injured muscles, are the means most to be relied upon. In all cases the disease is chronic, and the treatment requires to be persevered in for a long time.—Lead encephalopathy, brain affection produced by lead, is happily the rarest of the forms of lead poisoning. In a few cases the patient is attacked suddenly and without warning; but in the majority of instances, after the symptoms characteristic of the effect of lead upon the system are already well marked, and often after colic has supervened, the patient is attacked with headache, vertigo, sleeplessness or somnolence, frequency of pulse, stiffness or pains in the limbs. The disease may now assume one of 3 forms. He may be suddenly attacked by a delirium, which in some cases is mild and tranquil, in others serious, the patient being dangerous to himself and others. In other cases he is seized with epileptiform or epileptic convulsions, in the intervals between which he only partially recovers the use of his intellect, remaining stupid and confused. Both these forms are apt to terminate in coma. In a third the patient is comatose or deeply somnolent from the commencement, neither delirium nor convulsions being present. The mortality in encephalopathy is very high, more than one half of all the cases proving fatal. So far treatment seems to have very little effect upon it.—The great importance of thoroughly understanding in what manner lead is likely to be affected by the action of water and air is readily perceived by considering how universally lead pipe is employed for conducting water into our dwellings. The subject has received the attention of the ablest chemists, and much positive useful knowledge is established, though from the intricacies of the subject and the great variety of circumstances involved in the multitude of cases, differences of opinion may still obtain in some comparatively unimportant points. Bright lead remains unchanged in perfectly dry air or in pure water deprived of air and protected from contact with it; but in a moist atmosphere, or in rain water, its brilliancy is soon dulled, and its surface is covered with a thin film of oxide, which adheres closely to the metal and protects it from further oxidation. The oxide, however, is partially soluble in water, and is no sooner taken up by this than it combines with any carbonic acid gas present or absorbed from the air, forming with it a film made up of silky scales of hydrated oxycarbonate of lead. More lead is then oxidized, dissolved, and converted into carbonate, and so the process of corrosion goes on. The oxycarbonate is almost insoluble in pure water, this taking up of it only about $\frac{1}{10}$ of a grain to the gallon; and so perfectly does this separate from water, that if distilled water holding 4 or 5 grains of oxide of lead to the gallon

be exposed to the air, the carbonic acid soon imbibed will cause the precipitation of silky crystals of the hydrated oxycarbonate, leaving in solution not more than one part of the metal to 4,000,000 of the liquid, or $\frac{1}{10}$ of a grain to the gallon. But an excess of carbonic acid gives to the water the property of dissolving this carbonate of lead, in the same way that it acquires also the property of dissolving carbonate of lime or limestone. So far it seems therefore that carbonate of lead is as likely to be found dissolved in water that comes in contact with the metal, as carbonate of lime in water flowing over limestone. But the presence of certain salts in the water, even in very minute quantity, modifies materially this action. The sulphates, phosphates, and carbonates of the alkalies, and the sulphates, carbonates, &c., of the alkaline earths, or indeed any neutral salt, the acid of which can produce with lead or its oxide an insoluble compound, greatly diminish this action, even if present in the water to the amount of only 4 or 5 grains in the gallon. Bicarbonate of lime, which is almost always present in spring water, is especially remarkable for its protecting influence. The action of these salts is to form insoluble precipitates, which accumulate upon the surface of the lead, and cover it with a protecting lining. The protection is not, however, uniformly efficient, for there are certain other salts and acids which exert a contrary influence, and frequently completely overpower the beneficial effects of the first class named. Such are the chlorides and nitrates, and especially nitric and nitrous acids, in solution. These acids are generated in all waters containing decomposing animal matter, and therefore must be almost universally present to some extent. Dr. Medlock, who has given much attention to this subject, goes beyond other chemists in the importance he ascribes to the influence of these acids. The action of any water on lead, he states, is entirely due to the presence of nitrous and nitric acid, resulting primarily from the decomposition of organic matters and of ammonia contained in the water; and further, that water deprived of these acids, and of substances capable of producing them, has no action on lead, and may be conveyed with perfect safety through leaden pipes or stored in leaden cisterns. He devised a method of removing the nitrates and also organic matters from water, unless the latter be present in great excess. It was by suspending coils of iron wire or pieces of sheet iron in the water, and after a time filtering off the deposit. The iron decomposes the nitric acid, being itself peroxidized, and nitrous gas is liberated, which acts upon the carbonaceous matters, oxidizing these, so that they are resolved into carbonic acid and a lower oxide of nitrogen. The original paper of Henry Medlock, Esq., "On the Reciprocal Action of Metals and the Constituents of Well and River Waters," is the 24th article of vol. xiv. (4th series) of the "London, Edinburgh, and Dublin Philosophical Magazine" (1857).—The quantity

of lead in solution in the gallon of water, sufficient to produce injurious effects, depends very much on the individual constitution and on the length of time that the water continues to be used. Dr. Penny, professor of chemistry at Glasgow, cites an instance of the health of a whole community being deranged by water containing only $\frac{1}{4}$ of a grain of lead to the gallon; and also quotes the conclusion of Dr. John Smith of Aberdeen, that the limit of manifestly deleterious action would seem to be somewhere between $\frac{1}{4}$ and $\frac{1}{2}$ of a grain. An interesting case is reported of the lead disease attacking a large number of the household of the ex-royal family of France in 1848, while they resided at Clarendon, Surrey, Eng. The spring that supplied the palace had been selected for the purity of its water, and lead pipes had been laid 80 years previously to the palace, 2 miles distant. Four members of the family manifested some symptoms of poisoning after 5 months' use of the water, and in 7 months 13 persons were alarmingly affected. The water on examination was found to contain one grain of lead per gallon.—Although the testimony of the highest medical authorities weighs strongly against the use of lead pipe, it is not likely to be abandoned until some substitute is found equally cheap that possesses its peculiar advantageous properties. Little confidence is felt in the attempts that have been made to shield it by an internal coating of some innocuous substance, which necessarily increases its cost without insuring perfect protection. If it must then be submitted to as a necessary evil, it is important to understand how it may be used with the least risk. The greater danger is in general to be apprehended, the more of the pipe is used, the longer the water is allowed to stand in it before using, and the more the pipes are exposed to the alternate action of air and water as they are filled and emptied. Pipes in the upper parts of buildings are frequently left empty of water by this being drawn off below, and for this reason are more exposed to chemical action than those constantly filled. The first flow of water through any lead pipes that have been left some time without use will wash out the dissolved salts of lead. If this water is allowed to run to waste to the amount of several times the contents of the pipes, that which follows is not likely to contain any injurious quantity of lead. By thus drawing off every morning the water that has stood in the pipes, and then washing them out by the continued flow for a short time, all risk of lead poisoning may be avoided.—The published information on the subject of lead poisoning and the effects of water upon lead is scattered through a vast number of medical and chemical works and reports of sanitary committees. The most important works to consult are Christison on poisons, and L. Tanquerel des Planches on lead diseases, translated from the French by Dr. Samuel L. Dana (Lowell, 1848); and convenient reference may be had to the opinions of a great number of chemists in the "Collection of Re-

ports (condensed)," prepared and published in 1859 by Mr. James P. Kirkwood, engineer of the Brooklyn water works.

LEAF, an appendage requisite in the growth and perfection of plants, and of two distinct forms, constituting the organs of nutrition and those of reproduction. The first are the true leaves, the latter are flower leaves. In common usage, by leaves are understood the true leaves or foliar organs; but strictly speaking, the floral organs are leaves also—modifications of the original and typical leaf. This original and typical leaf may be defined as an expansion of the living bark of the stem, sustained by ramified processes of woody fibre called nerves and veins, forming a more or less tough network and a strong material, between and over which the tissue of soft pulpy matter (*parenchyma*) is spread. By this arrangement leaves can become very diversified in figure and size. The leaf of the great water lily of the Amazon river (*Victoria regia*) has been known to grow to the diameter of 6 feet, and yet the pulpy tissue which makes up its surface is so delicate and tender, that a straw held 6 inches above and dropped perpendicularly upon it would readily pass through it. This vast area of a substance as tender as that of a blanched lettuce is borne between and over a series of singularly contrived nerves and veins, some of which resemble arched ribs, and in order that the leaf may float they are rendered porous by large interstices; they are armed with fierce prickles to ward off aquatic animals which might injure the foliage by approaching from beneath. Such an expanded surface has been found capable of sustaining a weight of more than 70 pounds if by some mechanical contrivance the pressure is equally distributed. The leaf of the bujoor palm of India (*corypha elata*) often measures 80 feet in circumference; but growing in mid air, its nerves and veins are strong, stiff, and woody, in fact a series of woody branchlets, which seem to pierce and insinuate themselves into the parenchyma; yet in reality, at first tender and soft as itself, they only harden with their development so as to furnish the needed support to the pulpy parts. In all plants which have leaves there is to be observed an axis of growth or development, which, elongated, becomes what is called their stem or trunk. This axis may be reduced to the simplest point, and yet represent the stem. In the germination of a seed, the axis is that portion between the young descending part called the radicle and the thick fleshy apparatus called the seed lobes seed leaves, or cotyledons. These cotyledons are the first foliar organs; but there is another and accompanying process, called the plumule, which bears leaves more fully developed and of a higher though still provisional character. The angle formed by the insertion of these leaves upon the axis is called the axil, and in such an axil, through every process of vegetation thereafter, the bud which is to produce the next leaf is prepared. The axis and its axillary bud being thus provided for, we

notice that the primary condition of the leaf is that of a little conical body, which pushes out from the axis; but its after form depends upon other considerations. In internal structure, this axis and the seed lobes, or further onward the axis and foliar organs, are the same. The substance of which they are composed is called the cellular tissue. This tissue is in fact a countless multitude of very small vesicles, each possessing a sort of individual life or vegetation, which renders it capable of reproducing itself so as to form many new vesicles. These vesicles are known as cells, and are the most elementary organs of the plant—mere hollow spheres of vitalized matter, having contents capable of such changes as will eventuate in their reproduction. The primary and original form of the cell alters from the sphere to any form required by the circumstances of growth, and hardens into wood and woody fibre, following the same laws as are to be seen in operation in the stem itself. Some forms of plants are so simple that the perfected plant consists of a single cell (*protococcus*, for example), and the living pulp of a growing leaf may, in somewhat the same sense, be regarded as an aggregated or social condition of unicellular plants destined in such a society for another purpose. From the almost ideal size of the axis, we trace an upward development in the flattened base or *lecus* of the bulbous roots (improperly so called) of some vegetables, the bulb being in fact a shortened stem ending in a terminal bud, which is made up of the scaly coats enclosing the incipient leaves and flowers. Such being the office of the axis or stem, it is evident that the leaf is dependent upon the original idea of the axis in regard to its form, disposition, and general character. Thus, the structure of a monocotyledonous stem or endogen permits only a limited variation in the form of the leaf, and what are called the nerves and veins of such a leaf uniformly assume either rectilinear or at least parallel curving directions. The venation in the leaves of a dicotyledonous plant or exogen, on the other hand, is more free and unconstrained; and the nerves and veins accordingly ramify into multitudes of very delicate and fine fibres, corresponding somewhat to the mode of ramification of the stem itself into limbs, branches, twigs, and general spray. It is to be observed that the terms veins and nerves in botany have no such meaning as applies to them in zoology, they being merely appearances of such organs, but in fact neither hollow nor fitted as special vessels for the conveyance of sap or of nutritive fluid, any more than other parts of the parenchyma or cellular tissue. So close is their analogy to mere woody, branching threads, and frameworks for the support of the pulpy parts, and so similar to the larger branches of the trunk, that it is asserted that these bundles in the leaves are progressive bundles, and that they are so framed that (regarding the leaf as passing off horizontally from the axis) the oldest parts lie above, the youngest below. In the

lower part also a combined layer exists in dicotyledons; in the lower part liber bundles accompany the vascular bundles, and in the under part the vascular bundles in relatively thin and flat leaves project above the surface, while the upper part of the leaf appears level. (Schleiden, "Principles of Scientific Botany," translated by Edwin Lankester, London, 1849, p. 277.) The young and growing leaf, at first a little conical body, consists of a tender mass of cellular tissue; determinate cords of this tissue harden into fibres, which are the future framework of the entire structure. In some kinds of leaves (especially the parts of the flower) no such fibres occur. The great variety presented by different kinds of leaves in these ramifications of veins is worthy of study. The pulp itself or parenchyma is also developed in the most varied mode; but the general structure is similar in all. It consists of layers of cells placed one above another, in more or less close contiguity, and so as to have some cells which are filled with aqueous juices of a larger and looser arrangement than those which are found near the surfaces. These likewise contain most of the coloring matters that give the green hue to the leaf. In some kinds of leaves the cells are spirally fibrous; others have cells which contain peculiar juices or even crystals; others still, cells which constitute vessels containing fluids of a milky nature, or else receptacles for gum, oil, or resin. Beautifully arranged air cavities and air canals are found in the leaves of some particular plants. The distinct layers of the cellular tissue have also specific purposes. Of these may be mentioned the *epidermis* or skin, which is the hardening of a delicate epithelium exposed to the atmosphere; the same layer of tissue exposed to continued moisture, as in subterranean leaves and in those which float upon the water, becomes the *epibema*, which consists of compact cells without intercellular passages and destitute of breathing pores such as exist in the air-exposed surfaces. But while the internal structure is thus in general similar, the external contour is diverse. What may be here styled the forms of leaves constitute an essential element in the classification and description of plants. The several parts of a perfect leaf are the footstalk (petiole), the stipules at its base, and the *lamina* or blade. These, essential to a perfect leaf, may be individually wanting; as there are leaves which have no stipules, others which have no petioles, and others in which the blade is suppressed. The blade occurs more than once in some sorts of leaves, and the leaf is then compound; or if it is a single expansion without any intervening space or joint, it is simple. Some leaves are so very compound as to be made up of 80 little blades. As we have already noticed, the venation of the leaf is remarkable for its variety, and it alone would furnish a very good guide in distinguishing and arranging different species of some families of plants. The termination of the fibres which compose the veins is to be found in the edge of the pulp, at

the circumference; and whatever is the shape of the leaf, the outline appears to be determined by the development of the parenchyma between the veins. De Candolle has illustrated this by showing how, if the lateral veins are all short and of equal length, the leaf will be narrow or linear; if those of the middle are sensibly longer than those of the base and apex, the form will be elliptical, oblong, or even orbicular; but if the veins are longest at the base and gradually diminish toward the top, the leaf will be ovate, or if the longest veins are beyond the middle, obovate. The presence of a greater or less quantity of pulpy matter investing the branching development of the veins would cause a wider or narrower separation between each, as these remained in their original plane of growth or anastomosed with each other. Accordingly, in a capillary leaf we see the veins thus widely separate from the first and remaining so. These leaves are often to be found in plants submerged for a part of their existence, like the water ranunculus; if more pulpy matter were developed on each edge of the veins, the space between might become entirely filled, and an entire outline be the result. If however the pulp does not quite occupy all the spaces, the leaf may be bordered with rounded notches or scallops (crenate); or cut into sharp tooth-like jags (serrate); or coarsely toothed (dentate); or more coarsely toothed in consequence of rather more deficiency of pulp (sinuate); or still more deficient (lobed); or the blade may be cut down into sharp narrow incisions (cleft); or the incisions may extend almost through (parted), or to the very midrib or petiole, and form on each side of it distinct leaflets (divided). When these several leaflets are joined to the main stalk, they follow the same law that obtains in larger and entire leaves, each leaflet falling separately either just before or at the time of the fall of the leaf itself; and such an arrangement of leaflets on a common petiole is called pinnate. By further divisions of each pinna the leaf itself may be bipinnate, tripinnate, &c. The leaves of many plants in which the blade is still present are reduced to mere spines, as in the cactuses; or to mere scales, as in the dodders; or assume the forms of broader scales, that are thickened but taper to a sharp point, as in the cedar and juniper; or thickened, narrow, long, and needle-shaped, as in the larch and pines. The leaves of many species do not develop any blade whatever, and present flattened petioles in their place, like the acacias of New Holland; or even, extending the mere petiole beyond its typical form in the leaf, it becomes a filamentous tendril fit only for support by winding its extremity around other objects. Other peculiarities may also originate through this development or suppression of the parenchyma in different portions of the growing leaf; so that it may grow into a globular, ovate, prismatic, or flattened blade, as the cells accumulate in the middle rather than at the edges; in like manner, by the thickening of the

edges beyond that of the middle, the plane or flat-surfaced leaf may assume concave forms. This thickening of the parenchyma gives rise in some leaves to a fistulose shape, as in the onion, where, the circumference growing faster than the centre, the leaf becomes hollow by the bursting of the cells in the central portion, and by its inability to make good the void by supplying new pulpy material. Other singular forms of leaves are owing to another peculiarity in the nature of the parenchyma, which is that of a natural grafting or cohesion of the edges of the same organ. Thus in the stipules, which resemble little blades and which are situated at the base of the footstalks, we see that, although often distinct and separate, as in the heartsease, yet they cohere sometimes at their edges and surround the axis whence the leaf which bears them springs. In *polygonum* these stipules become perfect sheaths, and are called *ochrea*; in the rose they grow to the edges of the petiole, of which they become a thin leafy margin; while in some species of *astragalus* they unite and meet on the opposite side of the leaf. The petioles of some species of plants possess a similar power, as we see in the flattened united edges of the leaf of the sidesaddle flower of our swamps (*Sarracenia*), where this folding together of the two edges produces a sort of hollow goblet-shaped figure surmounted by the blade of the leaf hanging down like a lid; also in the pitcher plant of India (*nepenthes*), where the petiole is partly round and partly expanded, but rolled into the form of a pitcher, the blade fitting closely to its aperture or mouth. Sometimes, however, the reverse occurs, as in *dischidia*, where the opening of the pouch is downward and toward the base of the leaf; while in *Marcgravia* the pouches are formed by the cohesion of little leaves (*bractea*) which are borne at the base of the flowers. This power of cohesion also exists in the blade itself, as we notice in perfoliate plants, where the bases of two opposite leaves engraft so completely at the edges as to surround the stem and cause it to appear as if it had forced itself through the centre of a single and entire leaf; as in the honeysuckle (*Lonicera*) and the cup plant (*silphium perfoliatum*).—The office which the leaf performs in the economy of vegetation is of the highest importance. The conversion of inorganic, dead, mineral matter into living substance, to make new depositions of wood, to produce seeds or fruits as well as a variety of valuable secretions, belongs mainly to the foliage or leaves. One of the means is the exposure of as large a surface of the plant as is possible and as is requisite to the air and light. In a large elm tree it has been calculated that there existed in a single summer about 5 acres of foliage. Such an apparatus is a great natural laboratory, through which the sun's rays enable the living plant to originate peculiar chemical combinations and to increase its bulk in new forms. The importance of the foliage to the healthy condition of the plant is equally seen in every

stage of its growth; and, as has been stated, the floral organs are only modified forms of foliage suited to the purposes which they are to subserve. Every horticulturist knows how essential it is to secure a large, healthy, and abundant foliage, and how injurious is any improperly applied pruning to the maturation of the fruit. Beside this office thus imposed upon the leaf in the purposes of the growth of the vegetable, the presence of plants acts constantly and favorably upon the health of animals, rendering the atmosphere pure and salubrious, or else serving to condense the vapors which would otherwise be lost. Thus the beauty, the coolness, and the refreshing shade, which trees planted in cities afford, are not the only benefits to be derived; but every green and living leaf becomes in such close and pent-up places an ever useful though humble minister, to render the atmosphere fitted for healthy respiration; and this it does by the absorption, for its own peculiar nutriment, of deleterious gases, and by giving out again others which are requisite.

LEAGUE (Sp. *legua*; Fr. *lieue*), a measure of length used for estimating distances at sea, and by European nations upon land also. The nautical league is $\frac{1}{3}$ of a degree, or 3 equatorial miles, or 3.457875 statute miles. The land league in England is 3 statute miles. In France it has been used for different distances, as the legal post league, 2.42 English miles, and the league of 25 to the degree, or 2.76 English miles. The Spanish league is still more variable, sometimes 17 and again 17 $\frac{1}{2}$ being reckoned to the geographical degree. Upon the modern roads 8,000 Spanish *varas*, or 7,416 English yards, are estimated one league. The term is supposed by some to have come from the Celtic *leach*, a stone; and by others the Gallic *leuca*, league, is traced to the Greek *λευκος*, white, white stones being used by the Gauls to mark distances upon the roads.

LEAKE, a central co. of Miss., traversed by Pearl river; area, 576 sq. m.; pop. in 1850, 5,538, of whom 1,549 were slaves. It has a rolling surface and a light, sandy soil. The productions in 1850 were 180,687 bushels of Indian corn, 46,584 of sweet potatoes, 70,040 lbs. of rice, and 1,644 bales of cotton. There were 5 grist mills, 19 churches, and 842 pupils attending public schools. Capital, Carthage.

LEAKE, SIR JOHN, an English admiral, born in Rotherhithe, Surrey, in 1656, died in Greenwich, Aug. 1, 1720. He first distinguished himself in the fight with Van Tromp in 1673, and again by conveying relief to the starving garrison of Londonderry, and thus compelling the enemy to the siege. In 1702, during the war of the Spanish succession, he was promoted to the rank of commodore, and appointed to the command of a squadron, with which he rescued Newfoundland from the French. For these services he was made rear admiral, and soon after vice-admiral of the blue and knighted. In 1705 he constrained the French and Spanish to abandon the siege of Gibraltar; in 1706 relieved

Barcelona, and captured Carthage; and subsequently reduced the Balearic isles and Sardinia. After the relief of Gibraltar and the reduction of Carthage, he was made vice-admiral of the white, and presented with £11,000 by the queen; in 1707 he was appointed commander-in-chief of the fleet, and in 1709 rear admiral of Great Britain and a lord of the admiralty; and on retiring from active service, in the reign of George I., had a pension of £600 settled on him by parliament. He represented Rochester in parliament for several years.

LEAKE, WILLIAM MARTIN, an English officer and Philhellene, born in 1777, died in Brighton, Jan. 6, 1860. In the early part of his military career he was employed on special missions to Asia Minor and other parts of the East, and devoted himself to the exploration of Greece. He rose to the rank of lieutenant-colonel, but retired from the service in 1828. He was a zealous champion of the national independence of the Greeks, and endeavored to procure help for them from the English government during the conflict with Turkey. In 1814 he published his "Researches in Greece;" in 1821, his "Topography of Athens" (2d ed., 1842); in 1824, the "Journal of a Tour in Asia Minor;" in 1827, in concert with the Hon. Charles Yorke, "Notices of the Chief Egyptian Monuments in the British Museum;" in 1830, his "Travels in the Morea;" in 1835 and 1841, his "Travels in Northern Greece;" in 1846, his "Peloponnesiaca, a Supplement to the Travels in the Morea;" and in 1854, "Numismatica Hellenica," the appendix to which was published in 1859, shortly before his death. He was assisted in this work and many of his other labors by his wife, who was a daughter of Sir Charles Wilkins, and whose first husband had been Mr. Marsden of the English admiralty. He also wrote several political works on Greece. Prominent among them is his "Historical Outline of the Greek Revolution" (1826).

LEAMINGTON, or LEAMINGTON-PRIORS, a town and watering place of Warwickshire, England, on the river Leam, 20 m. S. E. from Birmingham; pop. in 1851, 15,692. It is one of the handsomest towns in England. Its only manufacture is that of gloves. Its prosperity and importance have mostly arisen from its mineral springs, which are of three kinds, sulphurous, saline, and chalybeate. The surrounding country is picturesque and beautiful, and the castles of Warwick and Kenilworth, as well as Stratford-upon-Avon, are not far distant.

LEANDER. See HERO.

LEAP YEAR. See CALENDAR.

LEAR, TOBIAS, an American diplomatist, born in Portsmouth, N. H., about 1760, died in Washington, D. C., Oct. 11, 1826. He was graduated at Harvard college in 1783, and in 1785 became private secretary to Gen. Washington, by whom he was always treated with great courtesy and regard. For several years he attended to the details of Washington's domestic affairs, and was most liberally remem-

bered by him in his will. In 1802 he was consul-general at St. Domingo, and afterward consul-general at Algiers and commissioner to conclude a peace with Tripoli. He discharged this latter duty in 1805 in a manner which gave umbrage to Gen. Eaton, who in concert with Hamet Caramelli, the deposed bey, had gained important advantages over the reigning Tripolitan sovereign. It was thought that to accept terms of peace at this juncture was to throw away the fruits of hardly earned success; but Mr. Lear's conduct was approved by his government, though much blamed by a portion of the public. He returned shortly after to the United States, and at the time of his death was employed in Washington as accountant of the war department.

LEARCHUS, a Greek sculptor of Rhegium, in southern Italy, who flourished probably between 700 and 650 B. C. He belongs to the semi-mythical Dædalian period, and the accounts of him are so vague and confused that he may be considered almost a mythical personage. Pausanias mentions a statue of Jupiter, attributed to him, in the brazen house at Sparta, which was considered the most ancient work of the kind. It was made of hammered pieces of brass riveted together.

LEASE, in law, the contract whereby one party (the lessor or landlord) transfers to another party (the lessee or tenant) the use and possession of real estate. The word is sometimes used also to designate a contract for the letting and hiring of personal property. No certain words or forms are necessary for this purpose; but a lease must describe the premises to be demised with an accuracy that is sufficient for certain identification; and there are words which, being usually employed, have now a very definite meaning, as house, farm, land, and the like. Any inaccuracies or uncertainties as to names, dimensions, locations, amounts, or terms, may be explained if the other parts of the instrument suffice to make them certain. As a general rule, they may be explained by evidence outside of the contract, provided this evidence neither varies nor contradicts the written contract. If the uncertainties cannot thus be cured, they may be rejected, if they leave behind them a good and sufficient instrument. Generally, any thing, whether real or personal, which is hired to be used, carries with it all the appurtenances and accompaniments already connected with it, and proper or necessary for that use of it. We will in this article consider: 1, the right and obligation of the lessor; 2, those of the lessee; and 3, some special rules of law applicable to leases.—If the lease be under seal, there is an implied covenant of good title in the lessor, and in all leases there is one of quiet enjoyment by the lessee. If the lease contain an express covenant of renewal, on reasonable terms, which do not imply perpetuity, the law enforces them. But a lease for 6 years, with a covenant to renew "on the same terms," means the same terms excepting

the covenant to renew, which will be omitted; for otherwise this covenant to renew would amount to a perpetuity, which the law prohibits. An important practical rule is, that the landlord is under no obligation to repair the premises, without an express covenant to that effect; and it seems to be the decidedly prevailing rule, that the uninhabitableness of the premises is no defence against a claim of rent. Even where the landlord covenants that the premises are in good repair and that he will keep them so, it has been held that the tenant must still pay his rent, however out of repair the premises may be, and seek his compensation by claiming damages from the lessor; but this is not certain. In England the law is very severe against the tenant, not permitting him to vacate the lease unless for some positive and actual wrong doing of the landlord, and not obliging the landlord to inform the lessee of objections or defects, however serious and incompatible with use. But we doubt whether this be law here.—The tenant is bound to pay his rent as agreed on, but not to pay the taxes unless the lease so specifies; but this may be inferred from an agreement that the lessee shall pay his rent "free from taxes and charges," or "a net rent," or any similar phraseology. In general, if the lease does not contain a clause giving the lessor a right to reënter and oust the lessee on his failure to pay rent, the lessor has no such right. And if there be such a clause (as is commonly the case in American leases), the law is exceedingly exact and punctilious as to the exercise of this right of reëntry. That is, to justify it, a demand must be made for the rent due, and of the precise sum, on the precise day when it is due, at a convenient hour before sunset, and at the very place where it is payable if one be specified, or otherwise at some accessible, conspicuous, and noticeable place on the premises. Without express agreement, a tenant is not bound to make repairs. It has been sometimes held, however, that he was bound to make such repairs as his own use of the house causes to become necessary, or such as are called for by some accident and are required to prevent the premises from becoming untenable. Generally, an outgoing tenant should leave the premises wind and water tight, but is not bound to any ornamental repair, unless his covenants require this of him. If the tenant agrees to make repairs, and to leave the premises in good repair, he is not justified in not doing so by the fact that the premises were not in good repair when he took them. If, with no obligation on his part to repair, he chooses to repair, the lessor is not bound to repay him unless he promises so to do. It is important to know, that if a lease contains a covenant on the part of the lessee to keep the premises in repair, and to return them in good repair, he must not only repair if injured by a fire, but rebuild if the house is burned down, unless it be done by the act of God or of the public enemy. And if there be no such clause, although the lessee is

not bound to rebuild, he is bound (by a prevailing but not universal rule) to continue to pay rent during the lease. Hence the best and most carefully prepared leases in recent times provide expressly (and all leases should), that if the premises shall be made untenable by fire, in whole or in part, the rent shall cease or abate proportionably until repair or rebuilding; and the clause requiring repair and a return of the premises in good condition contains the exception, "unless in case of injury by fire or other unavoidable accident." In the absence of express covenants, the tenant is not bound to rebuild a house burned down through his own negligence or that of his servants. The tenant of a farm is bound, without express covenants, to manage and cultivate the same in such wise as good husbandry and the usage of the neighborhood require; and for any wide departure from this he would be responsible in damages. A tenant may assign and transfer, if he do not covenant otherwise, the whole or any part of his lease. Technically, if he transfers the whole, it is an assignment; if less than the whole, it is under leasing. If therefore he covenants, as is commonly done, "not to assign, transfer, or set over" the lease, this does not restrain him from under leasing any part of it; and to prevent this, the words "or any part of it" should be added. If there be this covenant, and the lessee breaks it by assigning or underletting the premises, this only gives the lessor a claim for damages, but does not cancel the lease, nor permit the lessor to enter and oust the tenant, without an express covenant to that effect.—A tenant cannot defend against his landlord's claim for rent, by denying or contesting his title to the premises, unless the tenant can show that the landlord caused the tenant to accept the lease by a fraud upon him. But it was always held that a landlord forfeited his rent, and authorized the tenant to cancel the lease, by his expulsion of the tenant from the premises; and now it seems to be law, at least in the United States, that the lease is cancelled and all right to rent lost by any violent outrage or indecency on the part of the landlord, or any intentional and material interference with the tenant's proper use and enjoyment of the premises. (For the right of an outgoing tenant of a farm or garden to his crops, see EMBLEMENTS; for his right to remove any thing he has added to the premises, see FIXTURES.)—The lease may be for the life of either the lessor or the lessee or any other person, and then the lessee has a freehold, which is considered in the law as real estate. Or it may be for any term of years, and then it is a chattel only, although a real chattel; for the law regards a lease determinable at a time certain, however distant that time, as a less estate than one for the life of any person, however old or feeble he might be. Where a tenant, with consent of the landlord, enters into possession, without any express bargain, he is a tenant at will. To avoid some technical incidents of this tenancy, there grew up in England a custom,

which the law soon sanctioned, of considering such an estate as a tenancy "from year to year." This kind of tenancy was not transferred to this country with all its English incidents; but something like it exists here. The one essential principle is, that a tenancy at will may be determined by the will of either party, but only after reasonable notice given by the party intending to terminate the tenancy. There is no uniformity either of rule or usage as to what this notice should be. In some instances, a notice of 6 months may still be necessary, as it is in England. One of 8 months is more frequently sufficient; and in some states the notice must be equal to the interval between the periods of payment of rent. The rule is given in most of our states by statute, but depends in some upon adjudication or usage. Generally, the notice should cover the whole of the interval between payments. Thus, if the rent is paid quarterly, and 8 months' notice is sufficient, and the notice is given in the middle of a quarter, it takes effect at the end of the next quarter. No particular form of notice is necessary; but there must be reasonable certainty in the description of the parties, of the premises, of the purpose, and of the time. If a tenant for years holds over after the determination of his lease, he is technically a tenant on sufferance; and a tenant on sufferance is not a tenant at will. But by the prevailing rule of this country, such a person, if the lessor do not object to his holding over, is a tenant at will, holding upon all the terms and conditions of the expired lease which have not necessarily expired with it; that is, for example, he pays the same rent, at the same time.—If the lessor sells and transfers all his estate, the tenant now owes rent to the purchaser. If he sells a part only, there must be an apportionment of rent. How this rent is to be apportioned is not determined by any universal rule. If the premises were divided into aliquot parts, as halves, thirds, quarters, or the like, the rent would be divided in the same way. Where this is not so, the apportionment is not governed by mere quantity, but by value; and this is a question of fact for a jury, and not of law for the court. So if the lessor die in the midst of the term, the rent is apportioned accordingly. If the lessor and his assignee agree as to the apportionment, the lessee is bound by it, because it is of no interest to him whether he pays to one or another.—As to the remedy of the lessor for rent due, in some states the law of distress for rent remains. (See DISTRESS.) Where it does not, the lessor has only the same remedy he would have for any other debt of the same amount.—There are, in most of our states, provisions resembling those of the statute of frauds, which determine what leases may be oral, and what must be in writing. So also it is generally provided that leases of a certain length (most frequently 7 years) should be recorded in the registry of deeds.

LEATHER (Sax. *leithor*, from *liitha*, *liithor*, soft, flexible), a material produced from the

fibrous portion of the skins of various animals by subjecting them to processes of tanning and currying or other operations, the effect of which, by the chemical changes induced, is to cause the skins, without alteration of shape, to become soft and flexible or hard according to the sort of leather desired, and to lose their tendency to putrefy. From the most remote periods leather has been prepared for clothing and various useful and ornamental articles. The Hebrews ornamented it by giving it bright colors, as appears by the mention in Exodus of rams' skins dyed red; and they employed it after the manner of the Egyptians, from whom they probably derived their knowledge of working it, for vessels to contain water and a multitude of other uses. The paintings and sculptures of Thebes, described by Wilkinson in his "Ancient Egyptians," represent many of the methods of working leather practised by this people as very similar to those of the present time. Figures of men are seen currying, stretching, and working it, employing the semicircular knife like that of modern curriers, and the awl, a stone for polishing the leather, and other implements such as shoemakers now use. In their shops a prepared skin was suspended as the emblem of their trade, together with ready-made shoes and other articles in leather. For covering harps, shields, &c., their leather was ornamented by embossing and coloring. For strong cords it was cut into thongs and twisted like ropes; and it was also used in the form of straps. The method of removing the hair from the skins now practised by the Arabs, and probably the same then employed, is noticed, together with the modern methods of effecting this part of the preparation of leather, in the article HIDES. For tanning they used the pods of the *sont* or acacia, the acanthus of Strabo and other writers, and probably also the bark and wood of the *rhus oxyacanthoides*, and the bark of the *acacia seal*, both natives of the desert. Of the methods of preparing the leather used by the Romans no accounts are preserved; and the processes of the middle ages also are lost. The Saracens, it is recorded, used alum, the efficacy of which for preserving skins is well understood. The Kalmucks at the present time make use of a solution of alum and of static root, and also of sour milk, in preparing the skins of sheep and other animals. From the largest species of sea carp they have from remote times prepared garments which are nearly water proof, making use of sour milk, or some astringent, with which the skins, first dried and cleaned, are dressed 3 times a day, after which they are finished by exposure for several days to a dense smoke. The Britons exported skins in early times, but afterward, as Fosbroke states, learned the art of tanning, and carried it on in establishments of great extent erected on the banks of the streams. Many rude nations now prepare leather by methods of their own. In both North and South America the dried skins, after being cleaned from the hair, are placed in earthen

vessels with the powdered brains and some water, and heated to about 95° F. The cerebrous matter forms a lather, which thoroughly cleans the skins and makes them pliable. After remaining immersed for some time they are taken out and stretched tightly in a frame, in which state they are rubbed with a smooth stone in order to expel the water and fat. Sometimes after this they are also smoked, by which they are made to better resist the action of water. In the Pacific countries of North America leather is skilfully tanned by the natives, who employ some of the vegetable productions of the country for the purpose. Leather dressing and the working of leather in Japan and Hindostan are considered as the most degrading of all pursuits; the class that practices them is tabooed, and others are contaminated by communication with any of its members. In civilized countries the leather interest ranks among the principal departments of industry. In Great Britain McCulloch places it next to iron, cotton, and wool, while others consider it as equally important with cotton. In the use of boots and shoes alone it is supposed that the consumption amounts to an annual average of 8s. to each person, which would give for a population of 21,000,000 the sum of £8,400,000. In addition to this, the consumption in harness, gloves, bookbinding, and other uses is supposed to amount to quite as much more. In the United States the use of leather in proportion to the population is probably as large as in Great Britain. In France it is stated that about 3,000,000 skins are annually converted into leather, of which about 2,082,000 are of calves, 857,000 of oxen and cows, and 111,000 of horses, the total value of which is over \$7,000,000. Leather making in the United States was practised upon a very small scale up to the beginning of the present century; but since the introduction of improvements, which began in Massachusetts in 1808, such as the application of water power to many of the processes, and subsequently of steam power, and also of ingenious machines, as those for splitting, shaving, graining, and finishing the leather, the manufacture has become of immense importance, and is conducted in establishments of great extent. By the census of 1850 the total value of the product of leather in the United States was estimated at \$82,861,796, not including that of some 6,000,000 skins of sheep, goats, and other small animals. Of this sum the only states that produced more than \$1,000,000 were: New York, \$9,804,000; Pennsylvania, \$5,275,492; Massachusetts, \$3,519,123; Ohio, \$1,964,591; Maine, \$1,620,636; and Maryland, \$1,103,139. The total amount of capital invested in the manufacture was \$18,900,557, and the value of the raw material was \$19,618,237. The great market of the country for all sorts of leather is New York. The import trade in hides is chiefly directed to this city, as also the great bulk of the domestic production of leather. Boston also has imported largely from South America and the Pacific

countries; and the manufactures in leather, which are more extensively conducted in Massachusetts than in any other state of the Union, cause a demand in this direction for much of the leather received in New York. The following table presents the amount of importations of hides into New York for the last 10 years, together with the sources which furnished the supplies of 1859:

IMPORTS OF HIDES INTO NEW YORK.

Where from, 1850.	No.	Sales.
Africa	71,990	..
Angostura	212,717	..
Buenos Ayres	448,059	..
" salted	18,078	..
" horse	8,537	..
British Provinces	1,809	11
Calcutta, &c.	12,904	1,547
Carthagena	58,258	166
Central America	142,204	169
Curacao	8,559	18
Chili	12,100	..
Europe	170,308	451
Laguayra and Porto Cabello	87,358	88
Maracaibo	45,218	..
Manzanilla and Para	62,841	..
Mexico	62,020	188
Montevideo	169,083	..
" salted and horse	11,833	..
Rio Grande	162,741	910
" salted	11,871	..
" horse	2,214	..
Rio Janeiro	47,441	..
West Indies	52,090	110
COASTWISE.		
California	168,938	1
To dealers, chiefly purchases made in neighboring cities	77,050	336
New Orleans	69,553	88
Southern States	37,699	775
Texas	108,169	65
Total, 1850	3,375,938	4,797
" 1859	1,981,418	4,559
" 1857	1,815,768	3,138
" 1856	1,767,767	1,500
" 1855	1,544,124	1,550
" 1854	1,734,400	1,450
" 1853	1,381,292	1,397
" 1852	1,458,226	1,400
" 1851	1,243,598	1,458
" 1850	1,435,119	1,686

The use to which a large portion of the leather is applied is shown by an article in a late number of the "Shoe and Leather Reporter," descriptive of the shoe trade of Boston in 1859. According to this statement it appears that the shipments and sales of Boston dealers amounted in that year to considerably more than 750,000 cases of boots and shoes. This number at an average of 50 pairs to a case would give 37,500,000 pairs, worth, at an average of \$1.15 per pair, \$43,125,000. Of the shipments $\frac{1}{3}$ of the entire amount were to the following 7 marts: New York, 182,207 cases; San Francisco, 68,887; Baltimore, 62,464; Philadelphia, 59,119; St. Louis, 55,774; Cincinnati, 44,882; and New Orleans, 37,686. The foreign exports were very small, those to Australia amounting to 2,920 cases, constituting more than half of the whole. The greater portion of the remainder was taken by the British American colonies, leaving a small amount for the Sandwich islands, and a few places in Africa and the West Indies. The imports of leather and manufactures of leather into the United States in the year ending June 30,

1859, were valued at about \$6,500,000. The exports of American leather in the same period comprised 2,063,040 lbs., valued at nearly \$500,000, chiefly to the British colonies in North America and to England. The inspections of leather at Philadelphia, for the years 1850-'58, were as follows: 1850, 371,937 sides; 1851, 431,787; 1852, 427,548; 1853, 469,170; 1854, 471,690; 1855, 496,520; 1856, 476,573; 1857, 421,053; 1858, 447,827.—In each of the different civilized countries of the world most of the varieties of leather are prepared; but some have attained special success in certain branches of the art. Thus, the United States produces excellent hemlock and oak tanned leather especially adapted for belting and the soles of shoes. England is famous for its strong heavy sole leather; France for its soft and highly finished calf skin leather, and also for its finer qualities of kid for gloves; Russia for a variety, peculiarly adapted for resisting moisture and the attacks of insects, and possessing an agreeable odor, qualities derived from the oil of birch bark, with which it is impregnated after tanning with this substance; and the Levant formerly furnished the colored goat skins known as morocco.—The following are some of the kinds and sources of the leathers in use. The heaviest sorts, employed for trunks and soles of boots and shoes, are made from the butts or backs of the hide of the ox, cow, or buffalo. The hide of the American buffalo (properly bison) makes leather of inferior quality. The English import from South Africa the hides of the hippopotamus, which when tanned with oak bark make a very thick and compact leather. A thick pliant leather, formerly worn as a defensive armor and known by the name of buffe, was prepared from the hide of the urus or wild bull of Poland and Hungary; the modern buff leather, used chiefly for soldiers' belts, is made of cow or buffalo hides. Kip leather is prepared from hides of young cattle older than calves; but the name kip is also given to the hides from Calcutta, Russia, and Africa, which are of the small breeds of cattle of those countries. The best French calf skin is made from the skins of calves 5 or 6 months old. The leather obtained from the hides of horses is inferior in strength and solidity to that of oxen. It is used principally in a split form, for enamelled leather, and also makes a tawed or white leather, when prepared with alum, which serves a useful purpose as aprons for certain classes of mechanics, and also as thongs for whips and for sewing harness and belts, whence the name by which it is sometimes known of lace leather. The skins of the ass, mule, and camel are used only for the kind of leather called shagreen, which serves chiefly for scabbards. Sheep skins furnish a weak spongy leather, which, however, is much used for slippers, aprons, bookbinding, &c. An imitation morocco leather used in the United States is made of sheep skins. The best skins are from sheep that have been killed a few days after shearing. Those of fine-wooled sheep

are generally of inferior quality. Sheep skins are sometimes split, and the upper or grain side tanned with sumach and dyed to imitate morocco, which is used for pocket-books and other purposes requiring little wear, while the under side is prepared with alum, making a white leather; this is however more commonly made from lambs' skins. The latter also furnish a delicate leather largely employed for gloves as a substitute for kid, but they must be taken from animals not more than a month old. Such skins are imported into England to the number of about 1,400,000 annually. Morocco is prepared from goat skins, the best for this purpose being obtained from Switzerland. Those known as Tampico skins from Mexico are also excellent. Mogadore skins produce a black morocco, known as black or Spanish leather, so called because originally brought from Spain, where the Moors carried its manufacture to great perfection. The finest kid skins for gloves are of young animals that have not begun to graze. The leather known in the United States as buckskin or wash leather is prepared from deer skins. It is largely used for gloves, and its softness renders it a good material for rubbing polished surfaces of metal or of brass. That of the chamois goat is still softer. In parts of Europe, as Scotland, hogs' skins are tanned, and make a light but tough and durable leather, which is used for the seats of saddles and parts of harness. On the continent the skins are dressed with the hair on for covering trunks, knapsacks, &c. A very strong leather for its weight is made of seal skins, properly tanned. It is used for the legs of riding and hunting boots, and in England a black enamelled leather is prepared from it for ladies' shoes. In Louisiana the manufacture of leather from alligator skins has been recently commenced; and in Canada a new source of leather has been found in the skins of a species of whale which is taken in the St. Lawrence river. In February, 1860, specimens of leather from this source were exhibited before the polytechnic association of the American institute of New York, which were considered as combining in a remarkable degree the qualities of softness and extraordinary strength. In a paper read at the same time the fish is described as the white whale, once very common in the lower part of the St. Lawrence river, and still so in the rivers emptying into Hudson's bay. The skin is highly valued for the various sorts of excellent leather made from it.—The methods of preparing skins for tanning are noticed in the article HIDES; and a part of the final process of finishing leather is described in that on CURRYING. In the latter operation it is customary in the United States to employ gum tragacanth for finishing the leather, to which it gives a drier and harder, though no better finish than is obtained by the ordinary size and tallow. In the coloring on the grain the usual practice is, after the grease has been carefully "slicked" off with the tool called a slicker, to brush the leather over with a warm ammoniacal liquor, called

"sig," which is stale urine. Immediately after this an application of some ferruginous liquor, as of copperas, is made, followed by another of oil, the oil striking in as the water evaporates. Tanning is a chemical operation in which the tough product leather, which resists the action of moisture and the tendency to putrefy common to soft animal matters, is obtained by causing the fibrous portion of the skin, called the corium or true skin, to enter into combination with the astringent vegetable substance, tannin. The corium is the inner layer of the skin, and is known as the gelatinous tissue, though it is perhaps only made gelatinous by the action of dilute acids or alkalies or of boiling water. It readily putrefies when exposed to moisture, but when combined with tannin becomes insoluble in cold water, and without changing its form constitutes the durable compound, leather. At first this is porous, and lacks the softness and flexibility which it is the object of the currying process to impart; but unless the chemical process has been thoroughly effected, the leather can never become firm and compact, resisting the penetration of water. Its quality is judged of by this property, and by the degree of homogeneity of texture and uniformity of color it possesses. The color should be a brown, of shade varying with the kind of tanning material employed. Skins injured in being removed from the animal, by being exposed too long to the depilatory process, or by being tanned in muddy water, or with poor qualities of bark that contain foreign substances, can never make good leather. The black color is produced upon the surface of leather by simply washing it with a solution of copperas (sulphate of iron). By the action of this salt with the tannin it comes in contact with, a tanno-gallate of iron is produced of permanent black or reddish black color. Leather is improved by keeping it a certain period, not exceeding two years, before it is used; but kept longer than this, it is apt to become dry, and should then be stored in damp cellars. The soles of boots and shoes are made more durable by keeping them for some time after they are made up. Leather becomes excessively compact by being long subjected to heavy pressure of a column of water. The Cornish miners eagerly seek for the pieces of sole leather that have been used for packing of the mining pumps, and use them for soles as the most durable material they can obtain.—The principal source of tannin is the bark of trees, the vegetable principle being deposited by the sap chiefly in the inner portion of the outer bark, and the outer portion of the inner bark or liber. It is most abundant in bark at the time of the greatest flow of the sap; consequently the spring bark must be most productive, and that of the winter the least so. Oak bark was formerly regarded as the only sort suitable for affording tannin; and that obtained from the English oaks was particularly famous for producing leather of great strength. After being dried, broken up, and ground to coarse

powder in a mill, it formed the substance called tan; and this was used by the following method, which is still practised on the continent. At the bottom of a large pit old tan is laid some inches in depth, and over this a layer of new tan; upon this is spread a layer of hides which is covered with tan, and upon this are placed more hides; and so they alternate till the pit is filled, the last layer being of tan 12 inches thick. Over this boards are laid and covered with stones. Water containing tannin in solution is then let into the pit. Sometimes 600 or 700 hides are thus treated in one pit; and they are left from 4 to 8 months without being disturbed, excepting once to take them all out and reverse the order of their arrangement, putting those that were at top below, and laying them in fresh tan. In England, hides intended for heavy leather have been kept 4 years in the pit, the tan being renewed every few months. In the United States, the hides, after being thoroughly cleaned, are put in a weak solution of bark liquor and handled often, with a view to prevent their becoming "crusted" or unevenly "struck." The liquors must be adapted to the quality of the hides. By soaking green hides in weak solutions or "ooze," some of the gelatine may be extracted and lost; while liquors too warm and strong may by acting too rapidly upon the outer portions prevent, by what is called crusting, the penetration of the tanning material into the central part of the skins. This effect is in great measure obviated by adding a little Glauber's salts to the liquors, so that stronger solutions can be at once used. The liquors, however, may be gradually strengthened, the hides being handled and changed daily. In the tanning process dried hides gain in weight from 60 to 80 per cent; and it is this increased weight that accounts for the fact that hides purchased in the New York market are carried several hundred miles into the interior, and, after being treated by expensive manipulations, are returned to the city and sold at a less price per lb. than the original cost of the hides. The object of the tanner is to add as much as possible to the weight, and this sometimes causes him to adopt processes that are not particularly designed to improve the quality of the leather, and to reject others of great value in this respect, but which cause little addition to the weight. When sufficiently tanned for the purpose, they are split by a machine into several sheets, sometimes as many as 5 from a single thickness. The knife in this machine is sometimes made 72 inches long, so as to take almost the whole width of a hide of leather at one cut. By the latest improvement, of which the patent is held in Boston, this knife is made 80 inches long. Its use secures a large saving in labor, and also 25 per cent, or more in stock, which before its introduction was shaved away. The flesh side sheet, together with the shank and other small pieces, are in a good state without further tanning to be used by the trunk makers for covering wooden trunks, and are blackened and finished

on the trunks. The other sheets are then "levelled" with the knife by the currier, and the outer one, commonly used for covering carriages, is subjected to the process called "buffing," which consists in shaving off about half the grain, so as to leave a softer surface for receiving the artificial grain. Being then returned to the tan yard, they are scoured on a table with a brush, slicker, and water, and then are retanned in warm liquors. They are frequently handled, and being very thin the process is soon completed, when they are again scoured and sent to the currier to finish in the ordinary method or to prepare for japanning. In the retanning it is found advantageous to employ the terra japonica mixed with the bark liquors. Being very soluble and containing much tannin, it increases the strength of the liquors and lessens the amount of yard room required. Sicily sumach is used also in this part of the process, its effect being to soften the liquor and brighten the leather.—The species of oak principally used in England for tanning is the *quercus pedunculata*; but the great demand for leather has caused other kinds of bark to be tried, and the following tanning materials are now largely imported into that country:

Common name.	Botanical name.	Where from.
Oak bark.....	<i>Quercus pedunculata</i>	Flanders, &c.
Larch bark.....	<i>Pinus larix</i>	Scotland.
Mimosa bark.....	<i>Acacia sp.</i>	New South Wales.
Babool bark.....	<i>Acacia Arabica</i>	Bengal.
Cork tree bark.....	<i>Quercus suber</i>	Larache, Rabat, &c.
Hemlock bark.....	<i>Abies Canadensis</i>	United States.
Sumach.....	<i>Rhus coriaria</i> or <i>glabra</i>	Sicily.
Valonia.....	Acorn cups of <i>quercus agrifolia</i>	Smyrna, Trieste, &c.
Divi-Divi.....	<i>Cassipoua coriaria</i>	Morocco.
Myrobalans.....	<i>Terminalia sp.</i>	Marsabit, Rio de la Hacha, Savanilla.
Algarovilla.....	<i>Prosopis pallida</i>	Bengal.
Juga Martine.....	<i>Juga Martine</i>	Valparaiso.
Terra japonica.....	<i>Acacia catechu</i>	New Carchagena.
Catech.....	<i>Acacia catechu</i>	East Indies.
Kassu.....	<i>Arceuthobium</i>	Calcutta, Singapore.
		Ceylon.

Reference may be made to a number of these productions, as ALGAROVILLA, CATECHU, DIVI-DIVI, &c., under their own names, as alphabetically arranged in this work. A great variety of other vegetable substances have been introduced, either to be used alone, or as an adjunct to oak bark, none of which afford tannin in such large proportion as the gall nuts. In the northern United States and along the range of the Alleghanies the bark of the hemlock (*Abies Canadensis*) is the chief source of tannin. It is stripped in June, and its effect is to give a more reddish tinge to the leather than that produced by oak. Though it is inferior to oak, the two kinds of bark together afford, it is supposed, a better product than either alone. The American oaks most esteemed are, the Spanish oak, known in the southern states as the red oak (*Q. falcata*), the red oak of the north (*Q. rubra*), the chestnut or rook oak (*Q. prinus monticola*), and the black or quercitron oak (*Q. tinctoria*). The bark of the white oak and of some other species is also somewhat used in tanning. The bark of the American chestnut (*Castanea vesca*)

produces a tannin that is said to render leather more solid and flexible than that prepared with oak. The percentage of tannin contained in the various substances named below is given by Dr. Campbell Morfit in his work on "The Arts of Tanning, Currying, and Leather Dressing" (Philadelphia, 1852), the most complete compendium upon this subject:

Substance.	Percentage of tannin.	Authority.
Ostechu, Bombay	55.0	Davy.
" Bengal	44.0	
Rhatany root	42.5	Peschier.
" "	33.3	G. G. Gmelin.
Kino (tannin and extractive) ..	75.0	Vauquelin.
Eutea gum	73.2	E. Solly.
Nut galls, Aleppo	65.0	Gulbort.
" Chinese	69.0	Bley.
" Istrian	24.0	Rodera.
Old oak, white inner bark	31.0	Cadet de Gassinocourt.
" "	14.3	Davy.
Young oak, white inner bark ..	15.2	"
" colored or middle bark	4.0	"
Young oak, entire bark	6.0	Davy and Selger.
" spring cut bark	22.0	" " "
Oak kermes, bark of the root ..	8.9	" " "
Terra japonica or gambir	40.0	Esenbeck.
Arens root (<i>goum urbanum</i>) ..	41.0	Tromsdorf.
Squill-bulb	24.0	Vogel.
Staves of South Carolina	12.4	Parish.
Birch bark	1.6	Davy.
" "	1.4	Biggers.
Beech bark	2.0	Davy.
Larch bark	1.6	"
Hazel bark	3.0	"
Chestnut, American rose	8.0	Cadet de Gassinocourt.
" Carolina	6.0	"
" French	4.0	Julia de Fontenella.
" Spanish, white inner bark ..	1.3	Davy.
Chestnut, Spanish, colored or middle bark	0.3	"
Chestnut, Spanish, entire bark ..	0.5	"
" horse	2.0	Julia de Fontenella.
Lombardy poplar	3.5	"
Blackthorn	3.3	Davy.
Ash bark	3.3	"
Sassafras, bark of the root	53.0	Reinsch.
Elm bark	2.9	Davy.
Sumach, Stelly	16.3	"
" Malaga	18.4	"
" "	10.4	Frank.
" Carolina	5.0	Cadet de Gassinocourt.
" Virginia	10.0	"
Willow, Leicester, white inner bark ..	16.0	Davy.
Willow, Leicester, colored or middle bark	3.1	"
Willow, Leicester, entire bark ..	6.3	"
Willow, Leicester, bark of the trunk ..	1.4	Biggers.
Willow, weeping	16.0	Cadet de Gassinocourt.
Sycamore bark	16.0	"
" "	1.4	Biggers.
Elder	2.3	Davy.
Plum tree	1.6	Biggers.
Cherry tree	24.0	Cadet de Gassinocourt.
" Cornish	19.0	"
Tormentil root	46.0	"
Cornus sanguinea of Canada ..	44.0	"
Alder bark	36.0	"
Apricot bark	33.0	"
Pomegranate bark	32.0	"
Bohemian olive	14.0	"
Tan shrub with myrtle leaves, bark ..	12.0	"
Service tree bark (June berry) ..	18.0	"
Cloves	15.0	Davy.
Winter's bark	9.0	Henry.

—Tanning is not the only method of converting the fibrous portion of the skins of animals into leather. Various mineral salts, that have the

property of forming insoluble compounds with the gelatine and albumen of the skins, have been found to produce a similar effect with tannin itself, and have even been used in some cases to greater advantage by reason of greater simplicity in the application, and of less cost of time and materials in the operation. Sometimes the two methods of treatment are combined, the leather being first saturated with the solution of mineral salts, and then subjected to a short process of tanning, after which it is carried as usual. The material called tawed leather is a preparation of the skins by the use of a salt of alumina. Skins prepared for the use of the furrier, as described in FUR DRESSING, are properly tawed leather. The hair may be removed, and the product is then a soft leather suitable for gloves. By Bordier's process, patented in 1842, the salt used is a subsulphate of the peroxide of iron, prepared from the protosulphate (copperas) by digesting this with a mixture of nitric and sulphuric acid, till nitrous acid fumes are no longer given off. Instead of nitric acid, peroxide of manganese may be used to furnish oxygen to peroxidize the protosalt of iron. After the mixture has been left quiet 24 hours it is diluted with a sufficient quantity of water, and freshly prepared hydrated peroxide of iron is added to give an excess of base. After standing several days, the preparation being frequently stirred, it is ready for the skins. These are left in the liquid, the thin skins 3 days, and the heavy ones, intended for sole leather, 6 to 8 days. The subsulphate of iron is absorbed, and the free acids remain in the liquor. By the Dutch or Cavalin's process, the skins are first macerated in a solution of alum and chrome salt, and after this in one of copperas. A compound, or more than one, of iron and chrome is produced in the skins, converting them into leather. They are afterward soaked 4 days in a solution of one part of bichromate of potash and 2 parts of alum in 18 parts of water, the skins being taken out every day, dried and rubbed, and the strength of the liquor kept up by additions of the salts employed. They are then similarly treated in a bath composed of copperas dissolved in 6 times its weight of cold water, the skins being suspended so as not to touch each other in the bath. Leather thus made lacks the material, tannin, which ordinarily facilitates its being blackened. To produce this effect it is consequently dyed by a different method from that given for tanned leather. A mordant is first applied, consisting of a strong solution of alum and copperas, and after this the surface is rubbed with a strong decoction of logwood. A process largely in use in New England, first invented and patented by Prof. A. K. Eaton of New York, consists in the use of sulphate of potash, not as a substitute for tannin, but as a means of facilitating its combination with the gelatine. It is used with any of the ordinary tanning solutions, and so hastens the process that calf skins, which by the old methods required from 3 to 4 months for their

treatment, can be well tanned in 10 days. It is a common but mistaken impression that leather tanned rapidly is necessarily weak. On the contrary, the longer the hides remain in the liquor the more gelatine must be dissolved and lost, and consequently the more imperfect is the process. The late Hon. Gideon Lee, in a course of lectures delivered in New York upon tanning, remarked that in all of numerous experiments he had observed of both slow and quick tanning (the preparation of the hides for the ooze being equally well done), he had found the quick-tanned leather of a firmer and closer texture, more solid, less pervious, vastly greater in weight, and far more durable in the wear than the slow-tanned leather. And when all the gelatine composing the hide is combined with the tannin, not a single additional ounce can be gained from the strongest ooze, however long the process is continued. By the ordinary process in the United States the tanning is continued from 3 to 6 or 7 months, varying in different years from different qualities of hides, and sometimes owing to the different conditions of the seasons. The largest tanneries are usually in the vicinity of hemlock forests, where the bark can be most economically procured. Some of these establishments are of immense extent, with several hundred vats, and a capacity of tanning nearly 100,000 sides of leather. The consumption of bark is rated at about a cord to 10 sides, and the sides average over 18½ lbs. each. The tanneries include extensive buildings for storing bark, mills for grinding it, and those for softening the dry South American hides, which is done by beating them after they are soaked in water. There are also machines for rolling the leather, and copper heaters for warming the liquors.

LEAVENWORTH, a N. E. co. of Kansas, bounded N. E. by the Missouri river, which separates it from Missouri, and S. by the Kansas; area, about 500 sq. m.; pop. in 1860, about 16,000.—LEAVENWORTH, a city and the capital of the preceding co., founded in 1854, on the right bank of the Missouri river, 3 m. below Fort Leavenworth and 500 m. from the mouth of the river; pop. in 1857, 2,000; in 1860, about 10,000. The river is here swift and deep, and bordered on the Kansas side by a natural levee of rocks. The city has straight avenues, crossing each other at right angles, is lighted with gas, and contains (1860) 12 churches, 7 schools, 8 banking houses, 11 hotels, 13 lumber yards, 7 steam saw mills, a flour mill, a machine shop, 3 soap and candle factories, 6 breweries, 2 coach and wagon factories, 1 sash and blind factory, 4 brick yards, and several miscellaneous manufactories. Messrs. Russell, Major, and Waddell, the government contractors, have an immense establishment here connected with the transportation business, in which are employed 6,000 teamsters and 45,000 oxen. Three daily and five weekly newspapers are published, one of which is in German and one in French. The city is connected with St. Joseph and Jefferson City by

steamboat lines, and by daily stages with Lawrence, Fort Riley, Leecompton, Topeka, St. Joseph, Atchison, Wyandot, and Kansas City. Telegraphic communication with the East was established in 1859.

LEBANON, a S. E. co. of Penn., bounded N. W. by Kittatinny or Blue mountain, and S. E. by South mountain, and drained by Swatara river and its branches; area, 288 sq. m.; pop. in 1850, 26,071. It consists almost wholly of a valley, and has mines of excellent iron ore in connection with rich veins of copper; slate, limestone, and marble also abound. The soil is very fertile. The productions in 1850 were 241,939 bushels of Indian corn, 274,095 of wheat, 873,542 of oats, 25,602 tons of hay, and 417,074 lbs. of butter. There were 36 grist mills, 12 saw mills, 15 tanneries, 5 newspaper offices, 52 churches, and 5,788 pupils attending public schools. The Union canal and the Lebanon valley branch of the Philadelphia and Reading railroad traverse the country. Capital, Lebanon.

LEBANON. I. A village of South Lebanon township, and the capital of Lebanon co., Penn., situated on Quitapahilla creek and on the Union canal, 24 m. E. from Harrisburg; pop. in 1852, about 3,000. The Lebanon valley branch of the Philadelphia and Reading railroad connects it with Reading and Harrisburg, and the North Lebanon railroad with Cornwall ore banks. It has an active trade, and stands in the midst of a rich iron mining district, having several large furnaces in operation in the immediate vicinity. The village is regularly and substantially built; the houses are mostly of brick or stone; and there are several schools, newspaper offices, warehouses, a bank, a library, and various manufacturing establishments, chiefly of iron, malt liquors, leather, earthenware, &c. II. The capital of Marion co., Ky., situated on Hardin's creek, at the terminus of the Lebanon branch of the Louisville and Nashville railroad, 5 m. from Rolling fork of Salt river, and 55 m. S. S. W. from Frankfort; pop. in 1859, about 1,200. It contains 6 churches, a female seminary, an academy for boys, a flour mill, and 3 hotels, and is the seat of St. Mary's Roman Catholic college, which in 1859 had 115 students. III. The capital of Wilson co., Tenn., situated on a branch of Cumberland river, 30 m. E. from Nashville; pop. in 1851, about 2,000. It contains several academies, churches, &c., has manufactories of cotton and woollen goods, and is the seat of Cumberland university, founded in 1844, and having, in 1859, 11 professors, 165 students, and a library of 4,000 volumes. This institution is under the care of the Cumberland Presbyterians; attached to it are a law school with 3 professors and 188 students, founded in 1847, and a theological department with 2 professors and 33 students, founded in 1855. IV. A village and the capital of Warren co., Ohio, on Turtle creek, a branch of the Little Miami river, 37 m. N. N. E. from Cincinnati; pop. in 1859, about 3,000. It is situated on the Little Miami railroad, and is the terminus of the Warren

county canal, which connects the village with the Miami canal. In 1859 it contained 7 churches (2 Baptist, 1 Congregational, 1 Cumberland Presbyterian, 2 Methodist, and 1 Presbyterian), a normal school, a public library, 2 saw mills, 2 flour mills, and 2 private banking offices. Two weekly newspapers and a monthly magazine are published here. V. A post village of St. Clair co., Ill., on the Ohio and Mississippi railroad, 20 m. E. from St. Louis; pop. in 1850, 507. It is pleasantly situated, has a newspaper office, several stores and mills, and is the seat of McKendree college, a Methodist institution founded in 1835, and having 6 professors, 82 students, and a library of 5,500 volumes.

LEBANON, LIBANUS, or JEBEL LIBAN, the western of two mountain chains in Syria which are thrown off from the Taurus range near the N. E. extremity of the Mediterranean, and extend S. S. W. almost parallel with the coast. The eastern of these ridges is called Anti-Libanus, Anti-Lebanon, or Jebel esh-Shurki. The Lebanon is the higher of the two, its average altitude being estimated at 8,000 feet, while its culminating peak, Jebel Makmel, in lat. $34^{\circ} 19' N.$, is about 12,000 feet above sea level. On its W. side it sends off several spurs which traverse the narrow strip of coast and terminate at the Mediterranean in bold promontories. On the E. lies the valley of Coele-Syria, now called El Bukaa, which separates this range from Anti-Libanus. It is about 100 m. long and from 10 to 20 m. in breadth, with an elevation, near the source of the Orontes, of 2,000 feet above the sea. S. of it lies the valley of the Jordan, the most important of the rivers of this mountain system. The next largest is the Orontes (Arab. *El Aasy*), which cuts through the Lebanon at Antakia (Antioch), about lat. $36^{\circ} 7'$. The general geological formation of the Lebanon is carboniferous and mountain limestone, the whiteness of which is said to have given to the range its name, signifying "white." The rock is very porous, and has been worn by the action of air and water into numerous caves and hollows, which once sheltered the persecuted Jews and Christians. Graywacke, slate, basalt, and other igneous rocks, granite, gneiss, dolomite, iron, and coal are also found. Mines of the last two minerals are worked to some extent. The scenery of the mountains when viewed from the sea or plains is in the highest degree picturesque; but on a nearer approach little is presented to interest the traveller except rugged ravines and dangerous precipices. The vegetation is scanty, although here and there appear pleasant groves, of which the famous cedars of Lebanon form the most remarkable part, or good pasture grounds to which the Arabs resort in summer. The lower parts of the range, however, are exceptions to these remarks; they are well watered and cultivated, and their valleys contain orchards, vineyards, mulberry plantations, and grain fields. Olives are also produced, and on the E. side are scrub oaks. The habitable regions of the Lebanon are

chiefly in the possession of the Maronites and Druses. (See PALESTINE, and PHENICIA.)

LE BAS, PHILIPPE, a French historian and archaeologist, born in Paris, June 17, 1794. At the age of 16 he entered the navy, which he left 3 years later for the army. He shared in the campaigns of 1813-'14, and then leaving the service was employed for 6 years in the office of a magistrate. In 1820 he was chosen by Queen Hortense to act as tutor to Prince Louis Napoleon, now Napoleon III., with whom he remained until Oct. 1, 1827. After holding professorships at Paris successively of history and of the Greek language and literature, he was commissioned in 1842 by the French government to undertake a tour of archaeological investigation in Greece and Asia Minor, during which he made many valuable discoveries. He is the author of a great number of books on very varied subjects, embracing essays on classical inscriptions, editions of ancient authors, travels, ancient and mediæval history, politics, instruction in German, and translations from German and English. His best known works are his *Explication des inscriptions Grecques et Latines recueillies en Grèce (1835-'7)*, and *Voyage archéologique en Grèce et en Asie Mineure (1847 et seq., still unfinished)*.

LE BRUN, CHARLES, a French painter, born in Paris, March 22, 1619, died there, Feb. 12, 1690. He studied in the school of Simon Vouet, and at the age of 15 produced a picture of "Diomedes devoured by his own Horsea." He afterward studied under Nicolas Poussin in Rome, and for 6 years he devoted himself to the study of the antique and of the old masters, and returned to Paris in 1648. At the recommendation of Colbert, Louis XIV. appointed him his first painter, and conferred upon him the direction of the manufactory of Gobelin tapestry. He painted a grand series of pictures, now at Versailles, illustrating the military triumphs and public works of the reign of Louis XIV., executed in a half classical, half allegorical style, the monarch being represented in a Roman toga with the flowing peruke of the 17th century, and with other incongruities and anachronisms. For the Louvre he painted a series entitled the "Battles of Alexander," which are considered among his finest works, and are well known through the spirited engravings of Gérard Audran. Another of his pictures, "Mary Magdalen washing the Feet of the Saviour in the House of Simon the Pharisee," was so highly esteemed, that in 1815 the emperor of Russia accepted it in exchange for the celebrated "Marriage at Cana," by Paul Veronese, now in the Louvre. He remained in favor with Louis XIV. until his death.

LEBRUN, CHARLES FRANÇOIS, duke of Pia-cenza, a French statesman and author, born in St. Sauveur-Lendelin, Normandy, March 19, 1739, died near Dourdan, June 13, 1824. He was fortunate in early life in securing the protection of Chancellor Maupeou. After the downfall of his patron he occupied himself

with prose translations of Tasso's *Gerusalemme liberata*, Homer's *Iliad*, and other works. A letter advocating political and social reforms, published by him in 1789 under the title of *La voix du citoyen*, brought him into considerable notice, and he was elected a deputy to the states-general. As a member of the constituent assembly he opposed the issuing of assignats and the establishment of lotteries. He subsequently became president of the directory of Seine-et-Oise, was twice imprisoned during the reign of terror, entered the council of the ancients in 1795, and after the 18th Brumaire was appointed by Bonaparte 8d consul. He owed this elevation to his integrity of character, as well as to his abilities as a financier, which had been advantageously displayed while he was a legislator. Napoleon wished also to afford a proof of his moderation by selecting for so high an office a man of aristocratic connections and predilections. Lebrun rendered important services to the country in the adjustment of its finances and the establishment of the court of accounts, and after the coronation of the emperor was created arch-treasurer and duke of Piacenza. He was also at different times governor-general of Genoa and of Holland. After the abdication of Napoleon he adhered to the Bourbons; but having accepted office under the emperor during the Hundred Days, he was subsequently excluded from the chamber of peers until 1819. His latter years were passed in retirement, during which he finished a translation of the *Odyssey*.

LEBRUN, PIERRE ANTOINE, a French poet, born in Paris, Nov. 30, 1785. At an early age he wrote a tragedy entitled *Coriolan*, and other poetical compositions, which secured for him the patronage of François de Neufchâteau, one of the ministers of the directory. On the battle of Austerlitz he wrote a poem, for which he received a pension of 1,200 francs from the government. After the fall of the empire, he celebrated the glories of Napoleon in a series of poems. In 1828 he succeeded his patron, Count Neufchâteau, as a member of the French academy. From 1831 to 1848 he officiated as director of the royal printing establishment. For some time he was under Louis Philippe a member of the chamber of peers, and since 1858 he has been a member of the imperial senate. The publication of his complete works was commenced in 1844. They include a number of dramas, of which his *Marie Stuart* is based upon Schiller's tragedy of that name.

LEBRUN, PIERRE DENIS EDOUARD, a lyric poet, sometimes called the "French Pindar," born in Paris, Aug. 11, 1729, died there, Sept. 2, 1807. He was brought up in the family of the prince de Conti, and as early as his 13th year he began to write verses. By the advice of L. Racine he founded his style upon classic models, and his odes and epigrams soon brought him into notice. His early life was not fortunate, his wife, a beautiful woman, celebrated in many of his poems under the name of "Fanny," hav-

ing procured a legal separation after a stormy union of 14 years, and his little property having been dissipated by the insolvency of the prince de Guéméné. He avenged himself on his enemies by stinging epigrams and passionate lyrics. Upon the appointment of Calonne as comptroller-general of finance, he received a pension of 2,000 livres, and his muse was energetically employed in celebrating the virtues of the king. Upon the downfall of the monarchy he sang the praises of the republic with no less enthusiasm. He subsequently ingratiated himself with the first consul, and received a pension of 6,000 francs, on which he subsisted comfortably until the close of his life. His literary remains include 140 odes of all kinds, 600 epigrams, 4 books of elegies and 2 of poetical epistles, and a mass of miscellaneous pieces.

LECLERC, JOSEPH VICTOR, a French writer and philologist, born in Paris, Dec. 2, 1789. After distinguishing himself as a teacher in various schools, he became in 1824 professor of Latin eloquence and in 1832 dean of the faculty of letters of Paris, which position he still holds; he is also a member of the academy of inscriptions and belles-lettres, and ordinary councillor of the board of public instruction. He has edited the works of many old French writers, and commented on the *Fabliaux* and other literary remains of the middle ages. He has also translated or edited several classic authors. Among his principal works are: the *Éloge de Montaigne* (Paris, 1812); *Les pensées de Platon*, in Greek and French with a commentary (1818); *Nouvelle rhétorique* (1828); and *Des journaux chez les Romains* (1838). For many years past M. Leclerc has been the editor-in-chief of the great *Histoire littéraire de la France*, of which the 23d volume, bringing the history down to the 18th century, appeared in 1856.

LECOMPTON, a town of Kansas and capital of the territory, situated on the Kansas river, about midway between Topeka and Lawrence, and 60 m. W. from Westport, Mo. It is the seat of a U. S. land office, and \$50,000 was appropriated by congress to erect the government buildings in it.

LE CONTE, JOHN, an American naturalist, born near Shrewsbury, N. J., Feb. 22, 1784. He entered the corps of U. S. engineers in 1813, and was early employed in various important surveys and fortifications. He always manifested a taste for the natural sciences, to which he has contributed many important papers in the departments of botany and zoology. His principal publications are: "Monographs of the North American Species of Utricularia, Gratiola, and Ruellia" (in the "Annals of the New York Lyceum of Natural History," vol. i.); "Observations of the North American Species of Viola" (ibid., vol. ii.); "Descriptions of the Species of North American Tortoises" (ibid., vol. iii.); "A Monography of North American Histeroides" (Boston "Journal of Natural History," vol. v.); "Descriptions of Three New Species of Arvicola, with Remarks upon other

North American Rodents" ("Proceedings of the Academy of Natural Sciences of Philadelphia," vol. vi.)—JOHN L., M.D., an American naturalist, son of the preceding, born in New York, May 13, 1825. He was graduated at the New York college of physicians and surgeons in 1846. During his studies at this institution he made several scientific journeys, to Lake Superior and the upper Mississippi in 1844, to the Rocky mountains in 1845, and to Lake Superior again in 1846. In 1848 he made a third journey to the shores of this lake in company with Agassiz and a number of others, and contributed the account of the *coleoptera* to the volume in which the results of the expedition were given to the world. In the following year he visited California, where he remained until 1851, and explored the Colorado river. He has contributed many papers, chiefly on coleopterous insects, to the transactions of various American learned societies, and to the Smithsonian "Contributions to Knowledge." His principal published works are: "Catalogue of Geodaphnous Coleoptera of the United States" (in the "Annals of the New York Society of Natural History," vol. iv.); "On the Pelephidæ of the United States" (Boston "Journal of Natural History," vol. vi.); "On the Classification of the Carabidæ of the United States" ("Transactions of the American Philosophical Society," vol. x.); "Attempt to Classify the Longicornia of the United States" ("Journal of the Academy of Natural Sciences of Philadelphia," new series, vols. i. and ii.); "Synopsis of the Melolonthidæ of the United States" (ibid., vol. iii.); "Coleoptera of the Regions adjacent to the Boundary Line between the United States and Mexico" (ibid., vol. iv.); "Revision of the Elateridæ of the United States" ("Transactions of the American Philosophical Society," vol. x.); "Revision of Cicindelæ of the United States" (ibid., vol. xi.); "Revision of the Buprestidæ of the United States" (ibid., vol. xi.); "Report on the Coleopterous Insects of the 47th Parallel" ("U. S. Pacific Railroad Explorations and Surveys," vol. xi.).

LE CONTE, JOHN, M.D., an American physician and naturalist, born in Liberty co., Ga., Dec. 4, 1818. On his father's side he is a descendant of a French Huguenot who emigrated from Rouen near the close of the 17th century to New Rochelle, N. Y. Through his mother he descends from the New England Puritans who planted the Dorchester colony in South Carolina, a portion of whom subsequently established the Midway settlement in Liberty co., Ga. His grandfather removed to Georgia prior to the revolution. His father, Lewis Le Conte, jr., was a graduate of Columbia college, N. Y., and was through life a diligent and enthusiastic student of the natural sciences. After receiving his preparatory education near home, the son entered, in Jan. 1835, Franklin college, Athens, Ga. (Georgia university), and was graduated with high honors in 1838. In 1841 he received the degree of M.D. from the college of

physicians and surgeons in New York city, and in the following year established himself as a practitioner in Savannah, Ga. He contributed largely to medical periodical literature from 1842 to 1846. In the autumn of the latter year he was elected to the chair of natural philosophy in Franklin college, his *alma mater*, which position he held for 9 years. During this period he continued a frequent contributor to the leading scientific journals of the country on questions of physical science. He resigned his chair in 1855 to become lecturer on chemistry in the college of physicians and surgeons in New York city. In 1856 he accepted a call to the South Carolina college at Columbia, where he had been unanimously elected to fill the chair, then first created, of natural and mechanical philosophy, which office he still holds (1860). His numerous papers in periodicals embrace a great variety of important subjects in medicine and natural science.—JOSEPH, M.D., brother of the preceding, born in Liberty co., Ga., Feb. 26, 1823. After a preparatory education in his native county, he entered Franklin college, Ga., in 1838, was graduated with distinction in 1841, and in 1845 was graduated as M.D. in the college of physicians and surgeons, New York. He removed in 1848 to Macon, Ga., where he practised his profession. In 1850 he went to Cambridge, Mass., to complete under Agassiz a course of studies long before undertaken in natural history and geology. He remained 18 months under that distinguished savant, whom he accompanied in 1851 on an exploring expedition to the reefs, keys, and peninsula of Florida, assisting him in the observations which resulted in the discoveries made concerning the recency and the coral origin of those regions. After being graduated at the Lawrence scientific school in Cambridge, he returned to Georgia, and was elected to the chair of natural sciences in Oglethorpe university. He resigned this office after one year to accept the chair of natural history and geology in Franklin college, which he held for 4 years. In 1856 he was elected to the professorship of chemistry and geometry in the South Carolina college, which he now holds. He is an occasional contributor and a frequent lecturer on scientific subjects. Among his more important papers are those "On the Agency of the Gulf Stream in the Formation of the Peninsula and the Keys of Florida," "On the Correlation of Physical, Chemical, and Vital Forces, and the Conservation of Forces in Vital Phenomena," and "On the Formation of Continents and Ocean Bottoms," all of which were read before the American association for the advancement of science.

LEDA, in Greek mythology, the daughter of King Thestius or Glaucus. She was wife of Tyndareus, by whom she was at first mother of Timandra and Philonoe. Her great beauty attracted the love of Jupiter, who under the form of a swan surprised her in the bath. In time she produced two eggs, from which were hatch-

ed Castor and Clytemnestra, of mortal nature, being begotten by Tyndareus, and Pollux and Helen, who were children of Jupiter and immortal. There are many versions of this fable of Leda and the swan, some reversing the origin of the children, and others reducing their number; also of the subsequent history of Leda. One account states that she was after death deified as Nemesis, while another declares that Nemesis was the mother and Leda only the nurse or guardian of the eggs. Mythologists have conjectured an identity between Leda and Leto or Latona.

LEDEBOUR, KARL FRIEDRICH VON, a German botanist and traveller, born in Stralsund, July 8, 1785, died in Munich, July 4, 1851. He was graduated at Stockholm as doctor of philosophy at an early age, and appointed in 1805 teacher and director of the botanic garden at Greifswalde. In 1811 he became professor of natural history at the university of Dorpat, in Russia. In 1826 he explored the Altai mountains, and the result of his investigations is embodied in his *Reise durch das Altaigebirge und die Dzungarische Kirgisenteppe* (3 vols., Berlin, 1829-'80), and in his important botanical work, *Flora Altaica* (4 vols., Berlin, 1829-'34). In the preparation of the latter work, as well as in that of *Icones Plantarum Novarum Floram Rossicam illustrantes* (5 vols. fol., with 500 colored plates, Riga, 1829-'34), he was assisted by his travelling companions Meyer and Bunge. He regarded his *Flora Rossica* (3 vols., Stuttgart, 1842-'51), as the greatest scientific achievement of his life. He resided successively in Odessa and Heidelberg, and in Munich from 1843 to the time of his death.

LEDRU-ROLLIN, ALEXANDRE AUGUSTE, a French jurist and politician, born in Paris, Feb. 2, 1808. The son of a wealthy physician, he received a liberal education, studied law, and was admitted to the bar in 1830. A paper on martial law, which had been proclaimed at Paris by the government in consequence of the republican insurrection of 1832, gave evidence of his ability as a lawyer. Two years later, his *Mémoire sur les événements de la rue Transnonain* produced a deep sensation, and thenceforth he was employed as counsel by most of the opposition journals and republican conspirators who were prosecuted under Louis Philippe. In the numerous trials in which he thus became engaged, he gained a certain amount of popularity by his boldness and a fervid though not always classical eloquence. In 1837 he assumed the editorship of the *Journal du Palais*, a law periodical of high standing; he reprinted the volumes previously published (27 vols. 8vo., 1791-1837), and continued it for 10 years. He also superintended the publication of a work entitled *Jurisprudence Française, ou Répertoire du Journal du Palais* (8 vols. 4to., 1843-'8), and added to it a remarkable introduction. In 1844-'6 appeared his *Jurisprudence administrative en matière contentieuse de 1789 à 1831* (9 vols. 8vo.). About the same time he was the

chief editor of the daily law newspaper, *Le droit*. In 1838 he bought the place of attorney at the court of cassation, but disposed of it in 1846 in order to devote more time to politics. In 1841 he had been elected deputy by the department of Sarthe, by a nearly unanimous vote, to succeed Etienne Garnier-Pagès, who had just died. He made a bold confession of his republican creed, which was hailed with enthusiasm by his constituency, but caused him to be prosecuted by the government; he was sentenced to 4 months' imprisonment and a fine of 3,000 francs; on a new trial, however, he was acquitted. He spoke often in the chamber of deputies, but exerted little influence upon the members. Nor did he find hearty support among the opposition press; he consequently established, under the editorship of Flocon, a journal of his own, *La réforme*, which advocated not only political but social reforms. In 1845 he issued a socialist manifesto, which secured him a considerable party in the lower ranks of society, while it estranged from him the middle classes. His uncompromising support of the doctrine of universal suffrage displeased also the monarchical opposition party, headed by Odilon-Barrot and others. He took a leading part in all the republican demonstrations in the provinces during the year 1847; he was the orator of the political banquets at Lille, Châlons-sur-Saône, and Dijon; and when the revolution, for which his violent attacks upon the government had contributed to pave the way, broke out, he became for a short time its acknowledged leader; it was he who chiefly prevented the regency of the duchess of Orleans from being accepted by the chamber of deputies, and secured the powerful help of Lamartine. On the organization of the provisional government, he was elected by acclamation one of its members. His position was extremely embarrassing; he was associated with men whose principles were entirely discordant, some entertaining moderate opinions, others on the contrary anxious to bring about a radical change in the social system. Unwilling to go as far as these socialistic revolutionists, he gradually lost his popularity among the lower classes, while he became more than ever the bugbear of the *bourgeoisie*. Their distrust was deepened into hatred when, as minister of the interior, he issued revolutionary circulars and sent special commissioners to various parts of France to further the democratic organization of the departments. He was held responsible also for the publication of the *Bulletins de la république*, which were supposed at the time to be from the pen of George Sand. Nevertheless he evinced great personal zeal and courage in maintaining tranquillity in Paris; his timely precautions defeated the insurrectionary attempt of April 16; he protected the *Presses* and Émile de Girardin against a mob, and reconciled the democrats of Paris to the return of the army to the capital. But his efforts to prevent an open rupture between the opposing parties nearly lost him his seat at the ensuing elections, and

he owed his return to the constituent assembly solely to his name being associated with those of more popular members of the provisional government. On the formation of the executive commission by the assembly, he was the last on the list, and received but 458 votes out of about 800, and even this through the influence of Lamartine. The insurrection of May 15 increased the distrust of all parties toward him. He aided in defeating the object of the insurgents; but when Louis Blanc and Cansassière were accused before the assembly, he courageously defended them. When, in consequence of the insurrection of June 24, the executive power devolved on Gen. Cavaignac, Ledru-Rollin breathed more freely; and resuming his seat in the assembly, he neglected no opportunity of vindicating his own conduct and opinions, and in the parliamentary struggle that followed displayed more than his wonted eloquence, winning the suffrages of even his bitterest opponents. His speeches against the state of siege, his explanations of the insurrection of June, and his protest against the sending of a French army to Italy were particularly admired as efforts of oratory. In the presidential election of Dec. 1848, he presented himself as the democratic candidate, but received only 870,119 votes, while Louis Napoleon Bonaparte obtained more than 5,000,000, and Cavaignac nearly 1,500,000. The standing he held in the assembly, his denunciations of the reactionary tendencies of the majority and the government, and his eloquent appeals in behalf of a truly republican system, somewhat revived his popularity during the first part of 1849. To strengthen this returning favor he assisted at banquets in Le Mans, Châteauroux, and Moulins, where his democratic addresses were hailed with unbounded enthusiasm. A brutal attack upon his person which took place in the last of the above named cities, and of which he himself gave an account in the assembly, also had the effect of gaining him much sympathy; and in the elections for the legislative assembly he was chosen by 5 departments at once, Seine, Allier, Var, Saône-et-Loire, and Hérault, while 7 others gave him a very heavy vote. This encouraged him to a still more hearty opposition to the government, and especially to present himself as the defender of the Roman republic, which had been crushed by the arms of France. On June 11 he concluded his protest against the French expedition in these words: "The constitution is violated; we will defend it by every possible means, and if need be by the force of arms;" and at the same time moved the impeachment of the president and his cabinet. On June 13 he attempted an insurrectionary demonstration; at the head of a few deputies, some artillerymen of the national guard under Guinard, and a few hundred citizens, he went to the *conservatoire des arts et métiers*; but here, before they had time to take any decisive measures, the insurgents were surrounded by troops. Some of them escaped through an upper window. Ledru-Rollin, after

remaining concealed for about 8 weeks in the neighborhood of Paris, escaped to Belgium, and then repaired to England, whence he directed a solemn protest against the decree summoning him before the high court of justice. He was sentenced by default to transportation for life. Since that period he has resided in England, where he supports himself partly by the remnants of his property and partly by his pen. Beside a pamphlet, *Le 18 juin*, 1848, an apology for his conduct on that day, he has published *De la décadence de l'Angleterre* (2 vols. 8vo., Paris, 1850), and *La loi Anglaise* (2 vols. 8vo.). He has also been one of the principal contributors to *La voie d'un prosaïte*. He associated himself for awhile with Kossuth, Mazzini, Ruge, and other leading revolutionists, in the hope of concentrating the efforts of the European democracy. In 1857 he was accused, in connection with Mazzini, of a plot against the life of Napoleon III., and was a second time sentenced to transportation. He has refused to avail himself of the last amnesty proclaimed by the emperor of the French.

LEDYARD, JOHN, an American traveller, born in Groton, Conn., in 1751, died in Cairo, Egypt, Jan. 17, 1789. He lost his father in early childhood, and after an ineffectual attempt to pursue the study of the law, at his mother's request he entered Dartmouth college in 1772, with a view of fitting himself for missionary duty among the Indians. The restraints of this mode of life proving irksome, he absented himself at one time from college for several months, during which he visited the Indians of the Six Nations; and finally, abandoning the idea of becoming a missionary, he embarked on the Connecticut river in a canoe of his own fashioning, and floated down to Hartford. After a brief experience as a theological student, impelled by a restless spirit of adventure, he shipped at New London as a common sailor in a vessel bound for the Mediterranean, and at Gibraltar enlisted in a British regiment, but was discharged at the request of his captain. Returning to New London at the end of a year, he embarked soon after at New York for England, and arrived in London just as Capt. Cook was about to sail on his 8d and last voyage around the world. The nature of the expedition aroused Ledyard's enthusiasm for travel, and having procured an introduction to Cook, he so favorably impressed the great navigator that he took him into the service, and promoted him to be a corporal of marines. Of this voyage he kept a private journal, which in accordance with a general order of the government was taken from him on the return of the expedition to England. Subsequently he wrote out from recollection, assisted by a brief sketch issued under the sanction of the admiralty, an account of the expedition, which was published in Hartford in 1788. During the two years succeeding his return to England he remained in the British naval service, but steadily refused to take arms against his native country. In Dec. 1782, being in a

British man-of-war off Long island, he found means to escape, and revisited his friends after an absence of 8 years. Having spent many months in fruitless endeavors to fit out an expedition to the N. W. coast, which he was the first of his countrymen to propose, he embarked for Europe in June, 1784, in the hope of finding there the means of carrying his project into effect. He remained for some months at L'Orient, in France, where flattering hopes of receiving command of a ship destined for an exploring expedition were held out to him; but upon the failure of the negotiations he repaired in the spring of 1785 to Paris. He was kindly received by Jefferson, then minister to France from the United States, Lafayette, and others, and found in Paul Jones a ready coöperator in his plans of maritime exploration. Various circumstances prevented the consummation of their project, and after wasting many months in unavailing efforts to overcome obstacles, Ledyard determined to carry out his original design by a journey through northern Europe and Asia, and across Behring's straits to the western hemisphere. An application to Catharine II. of Russia for permission to pass through her dominions, which was preferred through Mr. Jefferson, having remained 5 months unanswered, he went to London, where, through the influence of Sir James Hall, he was offered a free passage in a ship just equipped to sail for the Pacific ocean. He actually embarked in her, but was not out of sight of land before the vessel was brought back by order of government, and the voyage broken up. Undiscouraged by these disappointments, and supplied with a small sum of money by Sir Joseph Banks and others, he departed on his long overland journey in the latter part of 1786. Arriving at Stockholm, he attempted to cross the gulf of Bothnia on the ice to Abo in Finland, but was met by open water in the middle. He immediately altered his course, and in the dead of winter walked around the whole coast of the gulf, arriving in St. Petersburg in the latter part of March without money, shoes, or stockings. This journey of upward of 1,400 miles was accomplished in less than 7 weeks. After a delay of several weeks he procured his passport from the empress, and received permission to accompany Dr. Brown, a Scotchman in the Russian service, as far as Barnaul in southern Siberia, a distance of about 8,000 miles. Here he parted with his companion, and proceeded to Irkootsk, whence he sailed in a small boat 1,400 miles down the river Lena to Yakootsk. Permission to proceed to Okhotsk on the sea of that name being refused, on the ground that the season was too far advanced, it being then the latter part of September, he accompanied a Capt. Billings, in the Russian service, back to Irkootsk, where on Feb. 24, 1793, he was arrested by order of the empress. Accompanied by two guards, he was conducted with all speed to the frontiers of Poland, and there dismissed, with an intimation that he would be hanged if he reëntered Russia. The

reason for this summary expulsion of Ledyard from the Russian dominions has never been satisfactorily explained. Mr. Sparks, in his "Life of John Ledyard" (Sparks's "American Biography," second series), conjectures that the Russian American company, then recently formed, and whose factories and forts were building in Irkootsk, their head-quarters, were apprehensive that he might publish facts in relation to their manner of trading with the natives which would prove to the disadvantage of the company; hence an order for his arrest as a spy was procured, and he was hurried out of the country. Ledyard found his way back to London in the spring, to use his own words, "disappointed, ragged, and penniless, but with a whole heart," and was cordially received by Sir Joseph Banks and others who had befriended him. Undaunted by previous adversities, he eagerly accepted an offer made to him by the association for promoting the discovery of the inland parts of Africa, to undertake an expedition into the interior of that continent; and when asked how soon he would be ready to set out, replied: "To-morrow morning." He departed from England in the latter part of June, intending to cross the African continent in a westerly direction from Sennaar, and had proceeded as far as Cairo, when he was attacked by a bilious disorder which put an end to his life. His death was considered a great loss to the society under whose auspices he had embarked, and who from the tenor of his first despatches from Egypt, and from his previous labors, had been impressed with his fitness for the part of a geographical pioneer. For capacity of endurance, resolution, and physical vigor, he was one of the most remarkable of modern travellers; and had he possessed means equal to his zeal, his name would doubtless have been associated with important discoveries, as it now is with wonderful and romantic but unprofitable adventures. Many extracts from his journals and his private correspondence with Jefferson and others are given in Sparks's memoir.—WILLIAM, an American revolutionary soldier, a relative of the preceding, born in Groton, Conn., about 1750, killed at the capture of Fort Griswold, Sept. 7, 1781. He held the commission of colonel in the militia of Connecticut, and during the marauding expedition of Arnold along the coast of that state in Sept. 1781, he was in command of Forts Trumbull and Griswold, which protected New London. Throwing himself into the latter work with 157 militia hastily collected, he refused a demand for its surrender, and resisted for nearly an hour the attack of a British force numbering 800 men, led by Lieut. Col. Eyre, who received a mortal wound in the onset. His successor, Major Montgomery, having been killed while mounting the parapet, the command devolved upon Major Bromfield, a tory, who effected an entrance into the fort after nearly 200 of his men had been disabled, including 48 killed, the Americans having lost about a dozen killed. To Bromfield's inquiry: "Who com-

mands this garrison?" Ledyard replied: "I did, sir, but you do now," at the same time handing him his sword. Bromfield immediately plunged it through the body of Ledyard to the hilt, killing him upon the spot. A massacre of the Americans ensued, which was not stopped until more than 100 of them were killed and wounded. A monument has been erected near the spot to commemorate this event.

LEE, in nautical language, a place sheltered from the wind, or the side of any thing opposite to that against which the wind blows. Thus to be "under the lee of the land" is to be protected by a bluff or an elevated coast from the force of the wind blowing seaward; but a "lee shore" is a shore on the lee side of a vessel, and on which therefore it is liable to be driven by a storm. "To leeward" is the direction toward which the wind blows; its opposite is "to windward." Leeway is the deviation of a ship's course from the course in which she is steered, when by the action of wind or current she is driven sideways as well as forward; it may therefore be defined as the angle between the line of the ship's keel and the line which she actually describes through the water.

LEE, the name of counties in 4 of the United States. I. A S. W. co. of Va., bordering on Tenn. and Ky., and traversed by Powell's river; area, 512 sq. m.; pop. in 1850, 10,267, of whom 787 were slaves. Powell's mountain lies on its E. boundary and Cumberland mountain on the N. W., and it contains iron ore, limestone, and saltpetre. The soil in the valleys is very fertile. The productions in 1850 were 485,725 bushels of Indian corn, 20,243 of wheat, 107,030 of oats, and 5,131 lbs. of tobacco. There were 54 grist mills, 14 saw mills, 7 tanneries, 2 iron forges, 25 churches, and 550 pupils attending public schools. Capital, Jonesville. II. A S. W. co. of Ga., bounded E. by Flint river; area, 600 sq. m.; pop. in 1859, 6,679, of whom 4,587 were slaves. It has a nearly level surface, wooded with pine, oak, and hickory, and a fertile soil. The productions in 1850 were 297,614 bushels of Indian corn, 21,210 of oats, 71,993 of sweet potatoes, 10,010 lbs. of rice, and 9,342 bales of cotton. There were 5 grist mills, 4 saw mills, 9 churches, and 137 pupils attending public schools. The south-western Georgia railroad passes through the county. Capital, Starkville. III. A N. co. of Ill., drained by Rock and Green rivers and Bureau creek; area, 720 sq. m.; pop. in 1855, 11,681. The surface is chiefly an undulating prairie diversified by tracts of woodland. The soil is very fertile. The productions in 1850 were 232,010 bushels of Indian corn, 97,538 of wheat, 99,562 of oats, 8,661 tons of hay, and 12,125 lbs. of wool. There were 8 grist mills, 6 saw mills, 6 churches, and 1,518 pupils attending public schools. The Illinois central and Fulton and Iowa railroads meet at Dixon, the capital. IV. A S. E. co. of Iowa, bounded N. E. by Skunk river, S. E. by the Mississippi, separating it from Illinois, and S. W. by the Des Moines, which divides it from Mis-

souri; area, 476 sq. m.; pop. in 1859, 31,242. Coal and limestone are abundant. The surface is diversified by woods and undulating prairies, and the soil is extremely and uniformly fertile. The productions in 1859 were 50,171 bushels of wheat, 803,680 of Indian corn, 8,200 of oats, 52,819 of potatoes, 23,081 tons of hay, 391,560 lbs. of butter, 111,376 of cheese, and 29,349 of wool. The Keokuk, Fort Des Moines, and Minnesota, and the Keokuk, Mount Pleasant, and Muscatine railroads pass through the county. Capitals, Keokuk and Fort Madison.

LEE, the name of a family of Virginia, several of whose members hold a prominent position in the history of the American revolution. The Lees were an old cavalier family of distinction in England. Richard Lee emigrated to Virginia in the reign of Charles I., bringing with him a numerous household, and settled in the county of Northumberland, between the Rappahannock and Potomac rivers, a region known then and now by the name of the "Northern Neck." This gentleman, the first of a long line of eminent men of his name in Virginia, was a devoted adherent of the Stuarts, and, in conjunction with the royal governor Sir William Berkeley, placed the colony in that attitude of resistance to Cromwell which caused the protector to send a fleet for its reduction under the commonwealth. The party of Lee and Berkeley displayed such determination, however, that the commander of the squadron was compelled to ratify a treaty with the rebellious colony, which was styled an "independent dominion." It is said that Richard Lee soon afterward hired a ship, and visited Charles II. in Flanders, offering to erect his standard in Virginia if assured of adequate support. The plan was not then carried out, but it has been stated that on the death of Cromwell, Charles II., by the exertions of Lee and Berkeley, was proclaimed in Virginia "king of England, France, Scotland, Ireland, and Virginia," nearly two years before his triumphal entry into London. The king exhibited his gratitude for this espousal of his cause, it is also said, by ordering the arms of Virginia to be quartered on those of Great Britain, with the motto: *Esset Virginia quartam*. Richard, the son of Richard Lee, was a member of the council; and Thomas, third son of the second Richard, succeeded his father, and became president. He died at the moment when his commission of governor of the colony had just been made out. He had married Hannah, daughter of Col. Philip Ludwell, an associate in the council; and from this union sprung 5 sons who rose to distinction, of whom the following are the principal. I. RICHARD HENRY, an American statesman, born at Stratford, Westmoreland co., Va., Jan. 20, 1732, died at Chantilly in the same county, June 19, 1794. After a course of private tuition at Stratford, he was sent to Wakefield academy, Yorkshire, England, where he became a proficient in Latin and Greek, and laid the foundation of that extensive knowl-

edge of the classics which afterward added so much to the effect of his oratory. Leaving school at about the age of 18, he made a tour through England, visited London, and returned in his 20th year to Virginia. His father had died two years before, and the young man found himself in possession of a competent estate. He resisted, however, every temptation to indolence, and applied himself with ardor to study in the diverse departments of law, politics, theology, science, history, and belles-lettres. He became fond of poetry and pored over Homer, Virgil, and Milton, but above all, the plays of Shakespeare, of which he was passionately fond. He passed his time thus at Stratford until his 23d year, when Braddock came to Virginia, on his ill-fated expedition against Fort Duquesne. The youths of the colony were filled with military ardor, and Lee raised a company of volunteers in Westmoreland, was chosen captain, and marched to Alexandria, where he offered his services to Braddock. The general however declined them with an ill-concealed expression of contempt for "provincials," whose services it had been well for him to have accepted, and Lee was compelled to march home again. In his 25th year he was appointed a justice of the peace, an office at that time of great responsibility and importance, from the extensive jurisdiction possessed by the county courts both in law and equity. The commission of so young a man was a strong evidence of public respect. That he did not disappoint the good opinion of his talents is shown by the fact that a number of his brother magistrates petitioned the governor and council that Mr. Lee's commission might be antedated in such a manner as to give him legal precedence, and enable him to act as president of the court. He was soon after chosen a member of the house of burgesses from Westmoreland, and took his seat in that body for one or two sessions, but he did not speak. This diffidence finally wore away in some measure, and he made a brief but striking speech strongly opposing the institution of slavery, and advocating the imposition of a tax so heavy as to amount to a prohibition of further importations. The brevity of this speech, its balanced style, and the timidity with which it is said to have been delivered, seem to show that it was previously written out, and indicate the painful diffidence with which the afterward celebrated parliamentary leader commenced his career. The time was however near at hand when the oppressions of the home government were to spur all classes of men into activity. The act declaratory of the right to tax the colonies passed the British parliament in 1764, and this was followed in the next year by the stamp act. Lee took in the former year an unhappy, almost a fatal step, the effects of which clung to him in a measure throughout life, and dimmed the light of his greatest public services. In a thoughtless moment, and at the instigation of a friend, he wrote to England making application for the post of collector under the

proposed stamp act. That this step was the mere result of hasty and momentary impulse is abundantly proved by the whole tenor of his subsequent career. He soon found an opportunity to explain all. The small tory party, exasperated by the energy with which he opposed the government, denounced him as a popular demagogue, bent only on revenging his disappointment in procuring the collectorship. The people of his county treated this accusation with contempt; but to satisfy the inhabitants of the colony at large, who did not know him, he published in the "Virginia Gazette" a statement of the facts. He had written to England by the advice of a friend, who no more than himself, "nor perhaps a single person in this country, had at that time reflected the least on the nature and tendency of such an act." Reflection had opened his eyes, and he had soon determined to exert every faculty he possessed in opposition to the measure. There can be no doubt of Lee's sincerity in this statement. The application would seem to have been simply the impulsive act of an ambitious young man, at a period when it was regarded as an honor to hold office under government. The immediate and active steps which he took against the authority of parliament appear to be conclusive of his real sentiments. He joined heart and hand with the opponents of the proposed tax; and when a special committee was appointed by the burgesses to draught an address to the king, a memorial to the lords, and a remonstrance to the commons against taxation without representation, Lee was placed upon the committee, and deputed by his associates to prepare two of the three papers. His literary and political acquirements well fitted him for the task, and the papers proved genuine and eloquent utterances of the spirit of resistance. From this moment Lee's career was an unbroken series of services to the cause of liberty. He was absent from Williamsburg when Patrick Henry introduced, in the ensuing year, 1765, his celebrated resolutions against the stamp act; but he warmly concurred in them, and originated an association in Westmoreland in accordance with their spirit. The articles of this association, which were written by Lee, and are still preserved in his own handwriting, go beyond Henry's resolutions, and indicate in a very striking manner the advance of public opinion from May, 1765, to Feb. 1766. Roused by the attempt to reduce the people to "abject and detestable slavery" by destroying the constitution, "we who have subscribed this paper," it is declared, "have associated, and do bind ourselves to each other, to God, and our country, by the firmest ties which religion and virtue can frame, to stand by, and with ourselves and fortunes to support, maintain, and defend each other in the observation and execution of these following articles." It is then declared that a trial by peers, and no taxation without representation, are fundamental portions of the constitution. If any one oppose

these principles, he will be regarded as a public enemy, "and we will go to any extremity, not only to prevent the success of such an attempt, but to stigmatize and punish the offenders." These noble words follow: "As the stamp act does absolutely direct the property of the people to be taken from them without their consent, . . . and in many cases deprives the British American subject of his trial by jury, we do determine, at every hazard, and paying no regard to danger or to death, to exert every faculty to prevent the execution of the said stamp act." If any "abandoned wretch" attempted to introduce stamped paper, the subscribers bound themselves to meet immediately, and deal with the offender in a summary manner. Considering the dangerous aspect of the times, the resolute tone and menace of these articles reflect high honor upon the courage and patriotism of Lee. That the association was in earnest is shown by the prompt arrest of a person who had accepted the place of collector. Lee and his friends proceeded to his house, burned his commission and supply of stamps, and compelled him to take an oath not to offend in future. At the winter session of the burgesses in 1766, Lee openly took his stand with the extreme party for reform, at the head of which stood Patrick Henry, by making a motion that the offices of speaker of the burgesses and treasurer of the colony should thenceforth be separate. It is difficult at this distance of time to imagine the profound sensation and the bitter resistance which this proposition aroused. The explanation may however be given in a few words. The death of Speaker Robinson, who also held the post of treasurer, had exposed an enormous deficit in the public accounts. This arose from the fact that Mr. Robinson, a gentleman of great wealth and the most amiable disposition, had lent to prominent members of the house, who were his friends, large amounts in government bills returned to the treasury, and directed by law to be burned. This had long been suspected, and as early as 1763 Lee had moved that a committee should be appointed to inquire into the state of the treasury. The speaker had "fixed his eyes with a dark and terrible frown" upon the youthful reformer, and the recipients of the loans had "turned their faces from him with haughty and disdainful airs;" but he had persevered. Nothing came of the motion, however, and the subject slept until 1766, when, as has been seen, Lee renewed his motion. It was powerfully opposed by the "aristocratic" party, many of whom had the strongest reasons for desiring its defeat; and by others, like Edmund Pendleton, who had been strongly attached to the deceased speaker. Henry, however, came to Lee's assistance, and their united eloquence carried the motion. Mr. Robinson's ample estate, upon which he had relied to make good the deficit, satisfied the public claim, and the colony lost nothing; but a fruitful engine of corruption was broken to pieces by the success of the

measure. Having thus formally taken his stand with the extreme leaders, Lee always afterward adhered to them. In 1767 he spoke with great ability against the acts levying duties upon tea and other commodities, and for quartering British troops upon the colonies. In 1768 he wrote from Chantilly, where he was then residing, not far from Stratford, to John Dickinson of Pennsylvania, suggesting a plan of private correspondence between the friends of liberty; and this scheme was enlarged and perfected by the appointment in 1773 of a committee of correspondence, to communicate with all the colonies. Lee was one of the 5 or 6 burgesses who in private meeting devised this plan, and is said to have originated the idea. The house promptly appointed the committee, and Lee was placed upon it. The great value of such a body was immediately shown. Acting under instructions from the house, the committee wrote to the sister colonies proposing a general congress. The proposition was almost universally acceded to; and the "first congress" met at Philadelphia, Sept. 5, 1774. Lee was one of the delegates from Virginia, and his voice was the second which was heard upon the floor. Patrick Henry preceded him, in a wonderful speech, of which the tradition only remains; and little more has been retained of Lee's. It is said, however, that the congress was even more impressed by his comprehensive views and political knowledge than by the "fire and splendor" of his eloquence, of which great accounts had reached them. He immediately took the prominent position which his great talents and zeal entitled him to, and was placed upon all the more important committees—those to prepare addresses to the king, the people of England, and the colonies; to state the rights and grievances of the colonies; and to carry out the resolutions of non-intercourse with Great Britain. As chairman of the first named committee, Lee reported the papers which Lord Chatham commended so highly. Mr. Jay wrote the address to the people of England; that to the king was probably Lee's; but that Lee wrote the memorial to the people of British America is undisputed. This is one of the most masterly state papers of the period. It has been justly said to have "the double merit of including all the qualities which a public writing ought to possess, and of excluding all that it ought not." It was in speaking of this memorial and the addresses to the king and people of England that Chatham said: "When your lordships look at the papers transmitted to us from America, when you consider their decency, firmness, and wisdom, you cannot but respect their cause, and wish to make it your own. For myself, I must declare and avow that in all my reading and observation, and it has been my favorite study—I have read Thucydides, and admired the master states of the world—that for solidity of reasoning, force of sagacity, and wisdom of conclusion, under such complication of circumstances, no nation or body of men can stand in

preference to the general congress at Philadelphia." It might have been added that the papers in question possessed as much of eloquence as of "decency, firmness, and wisdom." Lee's memorial declares in the second paragraph with a solemn earnestness that "in every case of opposition by the people to their rulers or of one state to another, duty to Almighty God, the Creator of all, requires that a true and impartial judgment be formed of the measures leading to such opposition; . . . that, neither affection on the one hand, nor resentment on the other, being permitted to give a wrong bias to reason, it may be enabled to take a dispassionate view of all circumstances, and to settle the public conduct on the solid foundations of wisdom and justice." The equally solemn conclusion is: "We think ourselves bound in duty to observe to you that the schemes agitated against these colonies have been so conducted, as to render it prudent that you should extend your views to mournful events, and be in all respects prepared for every contingency." On the adjournment of congress, Lee returned to Virginia with a reputation increased and consolidated by the stamp of high respect and confidence placed upon his character and public services by his great associates of the other colonies. He was thenceforth regarded as one of the acknowledged leaders in the struggle for liberty. In the spring of 1775 he was unanimously elected by his neighbors of Westmoreland a delegate to the convention to meet at Richmond in March, and duly took his seat in the body. The shadows of great events began to appear. It was but a month before the battle of Lexington. Patrick Henry was profoundly impressed with the importance of the crisis, and moved the prompt embodiment of the militia. He enforced the proposed measure by that celebrated speech in which he uttered the prophetic declaration that the next breeze which swept from the north would bring to Virginia the clash of arms. Lee followed him, and powerfully urged the propriety of the policy, declaring that even were the colonies overmatched, the race was not always to the swift, nor the battle to the strong. In spite of great opposition, the resolutions of Henry were carried, and Lee was placed upon the committee to prepare a plan of defence. The convention, which had already passed a vote of thanks to himself and his associated delegates, then appointed him to the second congress. He accordingly proceeded to Philadelphia in May, and was placed upon the committees to prepare munitions of war, to encourage the manufacture of saltpetre and arms, and to devise means for the prompt transmission of intelligence between the colonies. He served during the session upon a great number of other committees, and must have been one of the most active members of the body. As chairman of the committee appointed for the purpose, he drew up the commission and instructions of Gen. Washington, who had just been appointed commander-in-chief of the armies of America. Lee's greatest

public act at this time, however, was the preparation of the address to the inhabitants of Great Britain. The solemn and lofty tone of this address places it in the first rank of American state papers. After a recital of the wrongs inflicted upon the colonies, the writer asks: "And shall the descendants of Britons tamely submit to this? No, sirs! we never will, while we revere the memory of our gallant and virtuous ancestors. . . . Admit that your fleets could destroy our towns, and ravage our sea coasts; these are inconsiderable objects, things of no moment, to men whose bosoms glow with the ardor of liberty. . . . Your ministers (equal foes to British and American freedom) have added to their former oppressions an attempt to reduce us by the sword to a base and abject submission. On the sword, therefore, we are compelled to rely for protection. Of this at least we are assured, that our struggle will be glorious, our success certain; since even in death we shall find that freedom which in life you forbid us to enjoy." Congress adjourned in August, but reassembled in September, and continued its session into the year 1776. At the end of spring the necessity of dissolving all ties with the mother country became obvious. The people were in open arms against the crown; the country was carrying on a war; and congress still hesitated. There was "a poorness of spirit and languor" in its proceedings, wrote Gen. Charles Lee to R. H. Lee, in May; and its "pulse was low." The body was aroused on June 7 by Richard Henry Lee. In May the Virginia house of burgesses had directed her delegates to propose to declare the colonies independent; and at the request of his associates Lee accordingly moved "that these united colonies are and of right ought to be free and independent states; that they are absolved from all allegiance to the British crown; and that all political connection between them and the state of Great Britain is and ought to be totally dissolved." Lee's speech upon introducing the resolutions is said to have been one of the greatest that he ever delivered. They were seconded by John Adams, and a fiery debate immediately sprang up as to the propriety of the resolutions at that time, which lasted from the 7th to the 10th of June. On that day it was resolved that the subject should be postponed until the first Monday in July, and meanwhile, as the resolutions might be agreed to, that a committee should be appointed to draft a declaration of independence. Of this committee Lee, by established parliamentary usage, would have been the chairman; but on the evening of the 10th he received sudden intelligence of the dangerous illness of his wife, and returned immediately to Virginia. On the next day, the 11th, the committee was appointed, with Jefferson as chairman. By this simple incident the glory of the authorship of the declaration of American independence was transferred from Richard Henry Lee to Thomas Jefferson. In August Lee returned to his seat,

and continued in the performance of his arduous public duties until June, 1777. During this time, indeed, he labored so uninterruptedly as seriously to injure his health. From the moment of his entrance into congress to the middle of the year 1777 he had served upon about 100 important committees, generally acting as chairman, and performing the greater portion of the labor of all. The gentleman in whose house he lodged in Philadelphia declared that "there was a constant procession of members repairing to his chamber to consult about their reports;" and Dr. Rush said of him that his activity so greatly surpassed his physical strength, that "his mind was like a sword which was too large for its scabbard." On June 5 it was ordered by congress, "that Richard Henry Lee have leave of absence, his health and private affairs requiring his return to Virginia." The private affair was a vindication of his character and public action, from charges brought against him in the Virginia assembly, the effect of which had been to induce that body to leave him out in their recent appointment of delegates to the next congress. The indignation of Lee's friends was great. His brother, Francis Lightfoot Lee, and Mann Page, jr., then in congress, taking fire at the condemnation of their associate "in his absence, without opportunity of defence," wrote to the speaker of the house, tendering a resignation of their seats. The people of Westmoreland, ever true to Lee, had already elected him a member of the assembly, and he promptly made his appearance before that body and demanded an inquiry into his conduct. It was granted; the senate united with the house, witnesses were examined, and Lee was heard in his defence. The charges were, that he had demanded of his tenants payment of their rent in produce instead of money, with a design to depreciate the paper currency of the country; that he had favored New England to the injury of Virginia; and that, as a member of the secret committee in congress, he had opposed the publication of their proceedings from a desire to conceal the embezzlement of the public money. These charges were fully refuted. As to the main imputation, that he designed injury to the currency by receiving produce in place of money for rent, it was shown that the proposition was made to his tenants in 1775, when the non-intercourse associations had ruined the sale of produce, when scarcely any paper money had been issued, and when it was a great favor and convenience to the tenants, for whose relief the plan was devised. Lee's speech upon this occasion is represented to have been full of noble eloquence, and to have affected his listeners profoundly. Without any display of passion or unbecoming anger, he plainly stated that certain evil-disposed persons hated him for that very zeal which good patriots had commended in him; and that these enemies, in his absence, had deliberately planned his destruction. He is said to have shed tears during his speech. A gentleman by no means

friendly to him said of it: "Certainly no defence was ever made with more graceful eloquence, more manly firmness, equalness of temper, serenity, calmness, and judgment, than this very accomplished speaker displayed on this occasion." The result was a resolution of thanks to Richard Henry Lee "for the faithful services he has rendered his country, in the discharge of his duty as one of the delegates of this state in general congress." The resolution was announced by the venerable George Wythe, the speaker, who with tears flowing down his cheeks said: "It is with peculiar pleasure that I obey this command of the house, because it gives me an opportunity, while I am performing an act of duty to them, to perform an act of justice to myself. Serving with you in congress, and attentively observing your conduct there, I thought that you manifested in the American cause a zeal truly patriotic; and, as far as I could judge, exerted the abilities for which you are confessedly distinguished to promote the good and prosperity of your own country in particular, and of the United States in general." Lee replied in a few words, which were listened to in the midst of a profound silence, many members being greatly affected. When George Mason, one of the recently appointed delegates, soon afterward resigned, Lee was chosen in his place; and thus his vindication was formally recognized as complete. Such is a brief relation of an event which enlisted the deepest feelings of the country at the time, and which still remains a vivid tradition in the popular mind. The arraignment, as it were, of so old and distinguished a public servant, the noble and affecting defence which he made before his peers, and the deep emotion of those who listened to his vindication, form altogether a great picture in the history of that period. The motive of the charges it is difficult at the present day to arrive at. Lee's prominent part in the exposure of Speaker Robinson's deficit, and the consequent hatred of the influential members who were involved in it, are said to have laid the foundation of a silent but bitter and profound hostility toward him; and the old application for a collectorship under the stamp act, never allowed to sleep, may have had its influence. Unpublished documents may some day clear up this obscure subject. Lee returned to congress, and in 1778 served upon 87 committees, though laboring under serious ill health. He continued to sit until 1780. During this and the three succeeding years he remained in Virginia, and as county lieutenant of Westmoreland actively exerted himself in repelling the enemy, who were making incursions on the banks of the Potomac. He also sat in the assembly, and took a prominent part in the debates. In 1784 he resumed his seat in congress, and was elected president of that body. In 1786 and 1787 he sat in the assembly; was again elected to congress, and took his seat in the latter year; and when the federal constitution was adopted, was chosen one of the first two senators for Virginia.

He was not a member of the Virginia convention to decide upon the adoption of the constitution, and was strongly opposed to that instrument, regarding it as a consolidation of political powers which would tend to destroy the independence of the state governments. Nothing, he said, could have induced him to accept the appointment of senator, except his reverence for the liberties of the land, and "a thorough conviction of the danger these will be exposed to by the unamended state of the new constitution." In these views Lee coincided, as is well known, with Jefferson, Henry, Mason, and other leaders. He exerted himself to carry the proposed amendments, and like his great associates lived to form a more favorable opinion of the instrument. He became a strong supporter of the administration of Washington, and fully approved of his course in the Genet affair, and of his neutrality policy. The last letter which he wrote upon political affairs was a long and earnest one to Washington, warmly approving his measures. In 1793 he finally retired from public service, received a vote of thanks from the Virginia assembly, and returned to Westmoreland. His last days were harassed by ill health, but retirement was delightful to him after his long and arduous services, and his family "almost idolized him." He had married early in life Miss Aylett, by whom he had two sons and two daughters; and after her death, Mrs. Pinkard, who is said to have been "every way worthy of him." He was a devoted member of the Episcopal church, and was twice thanked by conventions of that denomination for the interest which he had taken in its affairs. His charity to the poor was extremely liberal, and no doubt largely contributed to his popularity in Westmoreland. This popularity never failed him, and he never suffered a political defeat in the county.—Lee's personal appearance was a valuable assistance to his oratory. It was eminently noble and engaging. His stature was tall, and the carriage of his body graceful and courtly. His countenance was of the Roman model, with a tall, narrow forehead, the head "leaning persuasively forward." By an accident resulting from the bursting of a gun, in shooting swans on the Potomac, he had lost the 4 fingers of his left hand, and always wore upon it a black silk bandage; but in spite of this misfortune his gesture was so graceful that he was thought to have practised it before a mirror. Among the great names of the period, he seems to have most resembled Edmund Pendleton; and these two leaders will descend to posterity as the truthful types of a race of men, no less distinguished for the splendor, grace, and power of their eloquence, than for self-sacrificing devotion to their country. Lee's disposition was gentle and amiable. There are many proofs of this fact. He no doubt possessed that pride of race and sentiment of class which then characterized every man of ancient ancestry, and his scholarly habits probably made him appear exclusive and aristocratic in his feelings. There is suffi-

cient proof, however, that he possessed a warm and kindly heart. The well authenticated instances of his open-handed charity, and the warm love which his brothers felt for him, indicate the amiability of his temper; and the many expressions of cordial affection in the letters addressed to him by his contemporaries, show that he had conciliated strong friendships. This latter test seems to establish clearly that a noble intellect was added in the man to an excellent heart.—His "Life and Correspondence" was published by his great-grandson, R. H. Lee (2 vols. 8vo., Philadelphia, 1825). II. FRANCIS LIGHTFOOT, one of the signers of the declaration of independence, born at Stratford, Westmoreland co., Va., Oct. 14, 1734, died in Richmond in 1797. Owing to the death of his father, he was not, like his brothers, sent abroad to complete his education; but under the direction of the Rev. Mr. Craig, a Scottish clergyman, who acted as private tutor at Stratford, he acquired a competent knowledge of the classics, and a great taste for reading and study. His father's library was extensive and valuable, especially for its fine editions of the British classics, and these volumes were ardently read by the young man. His father had left him an independent estate; and finding himself exempt from any care upon that score, he entered with zest into those social occupations and enjoyments which were then, as at present, a marked feature in the country life of Virginia. He is said to have been a favorite with ladies, and this was probably the result, in a measure, of a certain engaging gentleness and modesty which he always retained, to his great prejudice on the stormy arenas of debate, but to his advantage in social circles. From this round of enjoyments he was aroused by the struggle in the house of burgesses against parliament, and in 1765 took his seat there as member from Loudon county, where his estate was situated. He proved a useful member, but did not distinguish himself as a speaker. Diffidence seems to have been a family trait with the Lees. Richard Henry overcame it, but his younger brother never succeeded in doing so. He continued to sit until 1772, when, his term having expired, he left the house, was married to Rebecca, daughter of Col. John Tayloe of Richmond, and settled at "Monocan" in that county. He now united with his brothers in those measures of resistance against England which characterized Virginia at the period, and in Aug. 1775, upon the resignation of Col. Bland, he was chosen by the house of burgesses a delegate to the general congress. He was successively reelected in 1776, 1777, and 1778. During this whole period he seldom if ever appeared in debate, but acted upon many important committees, and frequently sat as chairman of the committee of the whole. When the declaration of independence was adopted, he signed that instrument. His chief services in congress were the assistance he rendered in framing the old articles of confederation, and the stand which he took in

favor of making the right to the northern fisheries and to the navigation of the Mississippi indispensable grounds in the conclusion of the treaty with England. These rights were finally guaranteed, and proved to be of primary importance. The gratitude of the New Englanders to the Lees appears in the correspondence of the period. Aspersions have been cast upon the "Lees of Virginia," and the family represented as hostile to Gen. Washington. The journals of congress sufficiently refute these charges. Richard Henry Lee advocated the scheme of investing Washington with larger powers, and Francis Lightfoot, the only one of the family at that time in congress, voted for a confirmation of the sentence of the court martial against Gen. Charles Lee after the battle of Monmouth, for which reason the latter would never afterward speak to him. He subsequently approved of and supported the federal constitution, on the avowed ground that "Gen. Washington was for it." In the spring of 1779 he retired from congress, and returned to plantation life. He was again called to represent his county in the senate of Virginia, but soon afterward finally abandoned the public service. His love of ease and fondness for social enjoyment rendered a life in the country more agreeable to him than any other, and he resolutely adhered to his determination not again to embark upon the sea of politics. The latter years of his life form an agreeable picture. His wife had borne him no children, but he was the centre of a large circle of friends, who greatly valued him for the goodness of his heart and the charms of his conversation. His "gay good humor and pleasing wit" made him a favorite with all, and his plain and easy manners rendered him approachable by persons of every class. Thus, in his quiet retirement, tranquilly engaged in agricultural pursuits, of which he was very fond, and spending his leisure moments in reading, writing, and conversation, passed his latter days. A severe pleurisy finally seized him, and he died within a few days of the death of his wife. III. ARTHUR, an American statesman, born in Westmoreland co., Va., Dec. 20, 1740, died in Middlesex co., Dec. 12, 1792. He was the youngest of the 5 brothers. In his 11th year his father died, and the youth was left to the care of his eldest brother, the head of the family. After a brief course of tuition under a private teacher in Westmoreland, he was sent to Eton in England, where he formed intimate friendships with many youths who afterward became famous in public affairs, and applied himself assiduously to study. His father had designed him for the medical profession, which was then regarded as one of the few appropriate pursuits for the younger sons of gentlemen of position; and from Eton Arthur passed to the university of Edinburgh. He went through the course of general science and polite learning prescribed at the institution, and then commenced the study of medicine. His success was gratifying. The university conferred upon him the degree of M.D. and a diploma approving

him a "general scholar," at that time esteemed a great honor. He also gained a gold medal for the best treatise "on some botanical subject," the subject of his paper being the character and uses of Peruvian bark. A pleasing incident of his residence at Edinburgh was the cordial friendship which he formed with the well known earl of Buchan, which continued unbroken throughout the earl's life. Leaving the university, he travelled through Germany and Holland, and finally returned to Williamsburg, the capital of Virginia, where he commenced the practice of his profession. He soon acquired reputation, but the threatening aspect of affairs drew him strongly toward political subjects. His brothers were already prominent in politics, and he determined to abandon his profession, return to England, and there embark in the struggle. In pursuance of this design, about 1766 he proceeded to London, where, in order to support himself, he immediately began the study of the law, which presented far greater allurements to his active mind than the practice of physic. He plunged with ardor into the angry current of newspaper debate. With a young student like himself he formed an intimate connection; this was William (afterward Sir William) Jones, and the correspondence between the friends was long and confidential. Lee continued the study of law from 1766 to 1770, when he commenced the practice, and continued in successful and lucrative employment at the bar until 1776, when he went to reside as secret agent of the American congress in Paris. We have referred to his political activity during these years. He exerted himself in the cause of his native country with extraordinary vigor. His letters, under the signatures of "Junius Americanus" and "Monitor," became widely popular, and procured him the acquaintance and friendship of many of the most distinguished friends of American liberty. His opposition to the act declaratory of the right of parliament to tax the colonies, and to the subsequent stamp act, was warm and persevering; and such was the eloquence of one of his pamphlets, entitled "An Appeal to the English Nation," that it was long regarded as the work of Lord Chatham. As a member of a society of gentlemen of the opposition who styled themselves "supporters of the bill of rights," he drew up a preamble and resolutions setting forth the principles upon which the club was founded, and these papers were commented upon and praised by "Junius," who declared that Lee was "plainly a man of abilities, though a little unreasonable." In order to vote in municipal elections, he purchased the freedom of the city of London, and exerted himself actively in the opposition. By his influence, the complaints of America were introduced into Wilkes's Middlesex petition; and he obtained the passage of a resolution by the "supporters of the bill of rights" that the members of the club would support no man for parliament who would not give pledges in favor of permitting America to tax herself. About this period Lee

was elected a fellow of the royal society, an honor which he held until the commencement of the war. He then resigned it on the ground that he could not consent to continue his connection with an English institution requiring pecuniary as well as literary contributions from its members, when England was at war with his native country. Lee's activity in the assertion of American rights soon brought his name prominently before the people of the colonies; and in 1770 he was appointed by the assembly of Massachusetts agent for that colony in case of the absence or death of Dr. Franklin, then holding that position in London. Between Franklin and himself a strong intimacy had sprung up, and the agent and his alternate consulted and acted in unison. The statement of his appointment is made by Lee in a MS. entitled "Memoirs of the American Revolution," which he commenced in his latter years, but did not live to finish. When Franklin left England in 1774, Lee became sole agent for Massachusetts, and continued as such until he went to Paris. In 1774 he presented the addresses of congress to the people of England and to the king. Lord Dartmouth, to whom the petition to the king was presented, returned that "no answer could be given," whereupon Lee expressed to him his "sorrow that his majesty had adopted a measure which would occasion so much bloodshed." In Nov. 1775, congress appointed a committee of secret correspondence with the friends of the colonies in England and other countries, and Lee was chosen agent for the purpose in London. He applied himself to the duties of his position with great activity; and in 1776, by order of the committee, proceeded to Paris, to open friendly negotiations with the French government. His labors met with fair success. The count de Vergennes presented a memorial to the king, suggesting that it would be sound policy "to facilitate to the colonies the means of procuring, in the way of commerce, the articles and even the money which they needed; but without departing from neutrality, and without giving them direct succors." Through the French ambassador at the English court, Lee finally obtained the assurance that the government would secretly furnish to the colonies £200,000 worth of arms and ammunition, to be transported from Holland to the West Indies. In Sept. 1776, congress proceeded to establish diplomatic intercourse with foreign nations; and Lee, Silas Deane, and afterward Dr. Franklin, were appointed commissioners to France. Lee had already accomplished two important objects. He had set on foot a private correspondence with the Spanish government, with the design of prevailing upon that court to unite with France in supplying the United States with money and arms; and had actually procured for the state of Virginia, from the royal arsenal of France, warlike stores of the value of nearly £260,000. The commissioners met in Paris in December, and decided that it was important for one of their number to

proceed to Madrid. Lee was chosen, and set out in Feb. 1777. Soon after his departure, Franklin received from congress the appointment of commissioner to Spain, but declined it, and in May Lee was chosen in his place. As soon as the appointment became known in London, the English government, who were well acquainted with Lee's character, and no doubt divined the objects which he had in view, instructed their minister at Madrid to protest against his reception. Lee was accordingly met at Burgos by a messenger, directing him not to proceed further. He returned an animated protest against this order, and the Spanish court finally withdrew it, permitting him to repair to the capital. Here he exerted himself with his accustomed activity, and presented to the government an eloquent memoir on "the present state of the dispute between America and Great Britain," the object of which was to establish the propriety of formally receiving a commissioner from the United States, and opening diplomatic intercourse with that country. He also drew up the plan of a treaty, and placed himself in communication with leading statesmen, persistently urging the adoption of a policy favorable to the cause of America. The government assured him of the good will of the king and the people, but adhered to a course of secrecy and caution. Ambiguous promises were plentifully made; but the only tangible success which Lee achieved was permission to make contracts for arms and ammunition with Spanish merchants. His residence at Madrid was of no slight importance, however, to the American cause. He impressed upon the minds of the statesmen of that country a high idea of the prospects and resources of America, and induced the court to instruct the Spanish minister at Paris to keep up a close and confidential intercourse with the American commissioners; and this intercourse finally enabled him to obtain a large and important loan. He returned to Paris, and found that his associates had during his absence opened negotiations with the Prussian minister. William Lee, brother of Arthur, had just been appointed commissioner to the court of Berlin; but as he already filled the post of representative of the United States in Holland, where his services were needed, it was resolved that Arthur Lee should, without waiting to hear from congress, take his commission and instructions, and proceed immediately to Berlin. He accordingly left Paris in June, 1777, and repaired to the court of Frederic the Great. The obstacles before him were serious and discouraging. Prussia was not bound in any way to America, and was under treaty obligations with England. The objects of the commissioners were the establishment of commercial intercourse between Prussia and the United States; the prevention of assistance from Prussia to England in procuring German auxiliaries; the prohibition of the passage of such through the dominions of Frederic; and authority to purchase warlike stores from subjects of Prussia. In all these designs Lee

fully succeeded. Frederic refused to receive him officially, and thus recognize the independence of the United States; but he was permitted to reside at Berlin as a private person, to carry on a secret correspondence with Baron Schulenberg, the minister of state, and to urge the claims of America as effectually as if he were her formally recognized representative. That his presence in Berlin speedily became known, and was regarded with suspicion and apprehension by the English envoy, is proved by an incident which occurred soon after his arrival. In his absence from the room which he occupied his door was opened by means of a false key, and all his papers were carried off. The servant of the English envoy lived at the same hotel, and Lee immediately addressed a communication to the minister, stating his suspicions, and complaining of the robbery. A note was returned by the king himself, declaring that the police would investigate the matter; and immediately afterward the papers were returned in the same mysterious manner. The affair was traced so clearly to the envoy that, at the king's request, he was recalled by his court. In his note on this occasion, Frederic tells Lee that he may speak without reserve to Schulenberg, and "assures him by the present of an inviolable secrecy, and that profound silence shall be observed with regard to those things that he shall communicate in this manner." When Lee left Berlin he was desired to keep the Prussian court well informed of the progress of the war in America, and assured that Prussia "would not be the last power to acknowledge the independency" of the United States. Thus the American commissioner had met with excellent success in his mission. He had accomplished every aim, with the exception of the formal recognition of his diplomatic position, and secured results of the first importance to America. On his return to Paris, a new field for his energetic exertions presented itself. Private letters from England informed him that some American prisoners there had been treated with great cruelty, and Lee set about correcting this wrong with his accustomed vigor. He immediately brought the matter to the knowledge of his colleagues; and it was determined to address a memorial to Lord North, protesting against this harshness. The paper was drafted by Lee, and he also drew up a letter to Lord Shelburne, and despatched both papers to England. A memorial on the subject was also presented to the French court, aiming to secure the interposition of that government, nearly at the same moment when the American congress published its manifesto, proclaiming and justifying its determination to retaliate these cruelties. When the action of congress became known to the commissioners, they promptly announced it to the French and Spanish courts; but the whole subject was ere long overshadowed by the stirring intelligence of the surrender of Burgoyne at Saratoga. Lee despatched the good news to his hundreds of correspondents in

Spain, Prussia, and other countries, and applied himself with renewed and ardent vigor to the task of inducing the governments of the continent to espouse the cause of America. The consequences of the triumph at Saratoga soon displayed themselves. The tone of the French court suddenly changed; and negotiations were at once commenced for the formation of a treaty of commerce and alliance. The progress of the negotiation was retarded by a dispute upon some points which Lee objected to. The first project of the treaty did not contain a recognition of the "sovereign" character of the United States; and the importance of this recognition was strongly pressed by Lee upon his colleagues. He also objected to those articles in which it was stipulated that no duties should be charged by the respective governments on any merchandise exported to the French West Indies which yielded molasses, or on the molasses exported thence to the United States. Lee opposed these articles as far too favorable to France, and declared that they gave her the right "to tie both of our hands," with the privilege in return on our part "of tying one of her fingers." It was finally determined that the decision should be left to congress, and the treaty was signed with this understanding by the commissioners. It was received in America "with the liveliest emotions of joy and gratitude;" but when its details came to be coolly considered, the objectionable articles were expunged, in accordance with the views of Lee. The treaty was nevertheless ratified by the French court, and the vexed questions were left open for subsequent negotiation. Soon after the signing of the treaty by the commissioners, Deane, between whom and Lee strong dissensions had occurred, was recalled, and John Adams was appointed in his place. It was through the exertions of Samuel Adams that Lee's early appointment of secret agent for the Massachusetts assembly had been conferred; and between himself and John Adams commenced a warm friendship never afterward interrupted. This was a matter of some importance to him, inasmuch as the relations between Lee and Franklin were by no means amicable, and indeed soon became openly inimical. During the years 1778 and 1779 Lee continued in active employment, urging upon Spain and Holland the interests of America, and in corresponding with the court of Prussia. He also acted as agent for Virginia in negotiating supplies of arms and stores. But a singular reward for his long devotion to the cause of America was about to be bestowed upon him. In the latter part of 1779 it became expedient to appoint a minister plenipotentiary to the court of Spain, and one or more commissioners to negotiate the proposed treaty of peace with England. Lee was nominated, but left out of both appointments, producing a strong effect upon the public mind, and even in shaping the action of congress. This affront was due to the machinations of his enemies. His colleague Deane on returning to

the United States had published an address, in which he spoke of Lee in the grossest terms, and charged him with obstructing the alliance with France and disclosing the secrets of congress to British noblemen. The subordinate agents of America in Europe, employed to conduct the commercial details of public affairs, united also to attack Lee, whose vigilant eyes had detected and exposed their peculations. Through their correspondents in America they disseminated vague calumnies against him, and so persevering were their assaults that they ended by producing a strong effect upon the public mind, and even in shaping the action of congress. When Lee heard of his rejection by that body, he immediately resigned all his appointments, and in Aug. 1780, sailed for America, to demand an inquiry into his official conduct. He was received at Boston with indications of the highest esteem and respect; and these evidences of public regard were displayed everywhere on his journey to Philadelphia. He had prepared an elaborate report of his entire official proceedings as the agent of the United States, exposing the calumnies circulated against him, and now demanded of congress an opportunity to vindicate himself. His opponents, however, remained silent. It was no part of their plan to make an open accusation against him. The revulsion in Lee's favor seems to have been complete, for congress declared that no charge had ever been entertained against him, and that they had never intended to fix censure upon any portion of his public conduct. As a mark of their confidence, he was requested to lay before them his views, and the information which he possessed, upon foreign affairs. This was done, and Lee added a strict account of all the moneys received or disbursed by him for congress or the state of Virginia; and further published "Extracts from a Letter to Congress, in answer to a Libel by Silas Deane." He then returned to his native state, but was not permitted to remain in retirement. In the spring of 1781 he was elected from the county of Prince William a delegate to the general assembly. He was a landholder in the county, but did not reside there, and an election under these circumstances has always indicated, in Virginia, extended public confidence. The assembly appointed him a delegate to congress, and in that body he served from Feb. 1782, until 1785. Like his brothers, with the single exception of Richard Henry, he was an indifferent speaker, but took a large share in the business of the body. In 1784 he was appointed by congress one of the commissioners to conclude a treaty with the Indians on the N. W. frontier, and prepared a valuable account of the character of the country through which he passed. Lafayette accompanied the expedition, and assisted it by his name and advice. Lee remained with his associates at Fort Stanwix throughout the winter, and treaties were concluded to the satisfaction of congress and the country. On his return he was appointed to the board of treasury with Samuel Osgood and

Walter Livingston, in which he continued from 1784 to 1789. In 1786 he was chosen by the general assembly of Virginia one of the commissioners to revise the laws of the commonwealth, and aided greatly in that task. When the board of treasury was dissolved in 1789, he retired finally from public employment, and, purchasing an estate in Middlesex county, applied himself to agricultural pursuits. He continued however to take an interest in politics, and "solemnly investigated" the character of the new federal constitution. He regarded the original instrument with jealousy and dislike, as too strongly tending toward consolidation; but the subsequent amendments greatly changed his opinion of it. During his latter years he carried on an extensive and interesting correspondence with many of the distinguished personages with whom his official career had thrown him in contact. Among these were Burke, Col. Barré, Wyndham, Sir William Jones, the marquis of Lansdowne, and the earl of Buchan; and on the continent, the baron de Breteuil, the abbé Raynal, the duke de Rochefoucauld, and others. He also corresponded with many persons of literary and political eminence in the United States. This correspondence has been published, and will be found highly interesting, and strongly indicative of the respect and regard of the writers for Lee. He was devoted to the improvement of the grounds around his hospitable mansion, and in planting an orchard contracted a pleurisy which proved fatal. He died in the 62d year of his age.—The career of Arthur Lee, though undistinguished by any connection with great and prominent events, such as catch the public eye, was one of the most important and useful to his country which the history of that day records. At a time when the new-born republic was struggling for existence, and carrying on a war against a powerful country with which the nations of Europe were at peace, and to which they were bound by treaties, he represented his country with a zeal and efficiency which accomplished the greatest and most valuable results. His mind seems to have burned with a sleepless ardor, and he never rested in his attempts to conciliate the courts of Europe in favor of America, and to induce them to furnish her with material aid. He commenced at London by uniting all the elements of the opposition against the ministry, and urging the cause of the colonies with tongue and pen. Thence he passed to France, and matched his strength against Vergennes and Turgot, the ablest of the statesmen of France, and destined afterward to give so much trouble to Jefferson. From France he went to Spain, and, in spite of the opposition of the British minister, extorted from that court every thing but an acknowledgment of American independence. We next find him in Berlin, conciliating Frederic the Great, and promptly succeeding as before. His negotiations and correspondence for nearly 15 years were unceasing, and undoubtedly proved of the utmost value to

America. The transient cloud which rested upon his name, from the machinations of those whose speculations of the public money he had exposed, soon passed away without effort upon his part; and when he retired from public affairs, he carried with him the respect and confidence of the best and most celebrated men of his epoch. It is obvious that to accomplish the important ends above referred to, he must have possessed conspicuous talents for diplomacy. The accounts which remain of him justify this surmise. Though at times melancholy, and prone to jealousy and discontent, he was a man of ardent impulses and the most polite and engaging manners. That the charms of his address were great is shown by the prominent position which he occupied in the polite circles of London and Paris. His face was striking and handsome, his eyes blue and brilliant, and his person pleasing. He was a thorough scholar, read with ease the Greek and Latin classics, and spoke and wrote French, Spanish, and Italian with force and eloquence. His acquirements, exclusive of his medical knowledge, seem to have been extensive, and were used with readiness and effect. With a disposition so impulsive and even affectionate as he possessed, when nothing occurred to arouse his discontent, or plunge him into melancholy, it is singular that he never married. He made, in explanation of this fact, the rather romantic statement, that "an Emma, an Eloise, or a Constantia would alone answer the high enthusiastic ideas I possess of wedded love." The "tempest of his fortune," he declared, had borne him away from those whom he might have loved under other circumstances. Devotion to his country had thus deprived him of domestic happiness. A high and honorable fame, however, came to him in place of it. He has been justly styled "the scholar, the writer, the philosopher, and negotiator," and in all these capacities he labored faithfully for the public good.—His "Life and Correspondence" was published by his grand nephew, R. H. Lee (2 vols. 8vo., Boston, 1829).

LEE, ALFRED, an American clergyman, bishop of the Protestant Episcopal church in Delaware, born in Cambridge, Mass., Sept. 9, 1807. He was graduated at Harvard college in 1827, subsequently studied for the ministry in the general theological seminary in New York, was consecrated bishop of Delaware in Oct. 1841, and is at present rector of St. Andrew's church, Wilmington. He is the author of a "Life of the Apostle Peter, in a Series of Practical Discourses" (12mo., New York, 1852), and "Life of St. John" (1854). He has received the honorary degree of S.T.D. from Trinity college, Hartford.

LEE, ANN, the founder of the sect of Shakers in America, born in Manchester, England, Feb. 29, 1736, died in Watervliet, N. Y., Sept. 8, 1784. She was the daughter of a blacksmith who was too poor to afford his children even the rudiments of an education, and during her youth and childhood was employed in a cot-

ton factory, and afterward as a cutter of hatters' fur. Although strongly impressed from an early age with the sinfulness of sensual indulgence, she yielded to the solicitations of her friends and was married to Abraham Stanley, a blacksmith, by whom she had 4 children who died in infancy. In 1758, with several members of her family, she united herself to a society of Shakers, then recently formed in Manchester, under the auspices of persons who had formerly been Quakers; and for 9 years she was deeply exercised in mind; at times the subject of such inward suffering, that she became emaciated and helpless as an infant, while at other times her spiritual joy was unbounded. She communicated to the society the divine manifestations which she claimed to have received, and gradually came to be regarded as an inspired teacher. About 1770 she began to deliver her "testimony against all lustful gratifications as the source and foundation of human corruption and misery;" but having been subjected to abuse and violence from her peculiarity of manner and the novelty of the doctrines she preached, she was at length confined in prison by the authorities of Manchester for several weeks. During this imprisonment, Christ, she said, revealed to her in a vision the most astonishing views and divine manifestations of truth; and after her release she was regarded by her sect as "a mother in spiritual things," and was always called by them "Mother Ann." In 1774 Ann Lee, with others of her sect, including her husband and a brother and niece, emigrated to New York, for the purpose of establishing there the "church of Christ's second appearing." The company separated for a time in order to seek employment and the means of subsistence; but about 1776 they were reunited in the present town of Watervliet, near Albany, where Ann Lee, who had previously formally dissolved her connection with her husband, became their recognized head. In 1780, during a religious revival in New Lebanon and several adjoining towns, the company first brought itself into notice, and under the influence of Ann Lee many persons were converted to the doctrines of the Shakers. In this movement originated the flourishing society at New Lebanon. The Shakers seem however to have incurred the suspicion of the local authorities with regard to their friendliness to the patriotic cause, and Ann and others were imprisoned for several months for refusing to take the oath of allegiance to the state of New York, it being contrary to their faith. They were released without a trial by order of Gov. George Clinton in the latter part of 1780. In 1781-'8 Ann Lee and the elders of the society at Watervliet made a missionary journey through New England, in the course of which societies were founded in Harvard, Mass., and other places. She died about a year after her return to Watervliet.

LEE, CHARLES, a major-general in the American revolutionary army, born in Dernhall, Cheshire, England, in 1731, died in Philadelphia,

Oct. 2, 1782. He was the youngest son of John Lee, colonel of the 44th regiment in the British service, and is said to have held a commission in the army when 11 years of age. He received a tolerable education, and early prepared himself for the profession to which his own inclination as well as that of his parents directed him, by studying the science of war. At 20 years of age he became a lieutenant in the 44th regiment, and in 1754 accompanied the troops sent to America, where during the next 6 years he saw considerable service. The 44th was one of the two European regiments which followed Braddock in his expedition to Fort Duquesne, and at the disastrous battle of Monongahela Lee received his first practical experience of warfare. He found his way in safety to Philadelphia with the remnant of the British army, participated in the various indecisive movements of the campaigns of 1756 and 1757 as captain of a company of grenadiers, and in 1758 was present in the assault on Ticonderoga, where he was severely wounded by a musket shot. He subsequently traversed a large portion of the western frontier, and after the reduction of Fort Niagara and Montreal in 1760 returned to England, where by the aid of influential friends and family connections he was promoted to a majority in the 103d regiment of foot. This regiment was disbanded in 1763, and Lee continued a major on half pay until 1772, when he was made a lieutenant-colonel on half pay, which was the highest rank he ever attained in the British service. In 1762 he accompanied the British army sent to Portugal to protect the frontiers of that country from the incursions of the Spaniards, and while in the brigade of Gen. Burgoyne distinguished himself by a brilliant night attack upon a Spanish post near the old Moorish castle of Villa Velha, which the commander-in-chief, Count de la Lippe, described as "a very gallant action." But notwithstanding this testimonial to his bravery, and others equally complimentary from the king of Portugal and influential friends, his promotion lagged. Various reasons have been assigned for this, the most probable being the freedom with which he discussed ministerial plans respecting America, and in general his severe strictures upon persons in authority. He was by nature impulsive, restless, opinionated, and overbearing, and his unhappy temper interfered, not on this occasion merely, but on many subsequent ones, with the advancement to which his talents in reality entitled him. The Mohawks, into whose tribe he was adopted during his residence in America, aptly named him *Onnewaterika*, or "Boiling Water." Wearied with the inactive life of a half pay officer, he visited the continent with recommendations from his former commander, was well received by Frederic the Great, and at Warsaw was appointed by King Stanislas Augustus, one of his aides-de-camp, an office of honor, however, rather than employment. In the latter part of 1766 he returned to England, bearing a letter

of recommendation from Stanislas Augustus to George III., and made urgent attempts to obtain promotion, or at least a military command. His meddling disposition again interfered with his advancement; and in consequence of some sarcasms directed against the military character of Gen. Townshend and Lord George Sackville, he found the door of promotion shut against him. The disappointment attending the ill success of this attempt rankled in his breast, and affected his whole subsequent career. Returning to Poland in 1769, he was raised to the rank of major-general in the Polish service, subsequently served for a short time in the Russian army in a campaign against the Turks on the Pruth, and for a year or two pursued a restless, wandering life through southern Europe. In Italy he fought a duel with a foreign officer, in which the latter was killed; and in the course of his life he became involved in many similar affairs, from which his courage and address generally enabled him to escape unharmed. In 1773 he was again in England with a temper soured by 10 years' unavailing struggle for preferment, venting his spleen against the ministry in squibs and newspaper articles full of irony and sarcasm, and systematically opposing every project emanating from government. He had some reputation as a political writer, and, according to Mr. Thomas Rodney of Delaware, confessed to that gentleman in 1778 that he was the author of the letters of Junius. Upon this statement and other circumstances an attempt was subsequently made by Dr. Thomas Girdlestone to prove that Lee and Junius were identical. It has been supposed by some that his vanity induced him to claim the letters as his own. Mr. Sparks, a writer disposed to take a not unfavorable view of Lee's character, says: "Rodney's veracity is not to be questioned. He may have misunderstood Gen. Lee's meaning, or have drawn a false inference from language that was left purposely ambiguous. Gen. Lee's vanity might, perhaps, carry him so far." The threatening aspect of affairs in America meanwhile suggested to him a sphere of action in which his hatred of ministerial oppression might find a wider sympathy than at home; and in the summer of 1778 he left England for ever, arriving in New York in October of the same year. His reputation as a caustic writer on the liberal side in politics, and to a certain degree as a general of European experience and renown, caused his arrival in the country to be hailed as an acquisition to the patriotic cause. During 1778-'4 he travelled extensively through the colonies, cultivating the acquaintance of prominent whigs, vigorously upholding with pen and tongue the claims of the people, and expressing both in his correspondence and conversation great enthusiasm for freedom. Writing to Gates, an old fellow campaigner in America, under date of May 6, 1774, he says: "For my own part, I am determined (at least I think I am) not to be slack in whatever mode

my service is required." In the same year he wrote his "Strictures on a Pamphlet entitled 'A Friendly Address to all Reasonable Americans,'" in reply to Dr. Myles Cooper, a tory clergyman of New York; this was one of the ablest of his literary performances, and was widely circulated, and read with avidity by all classes. The freedom with which he avowed his sentiments did not fail to arouse the suspicions of the British ministry; and his presence in Boston during the summer of 1774, where he associated with the leading patriots, induced Lord Dartmouth to warn Gen. Gage to "have an attention to his conduct, and to take every legal method to prevent his effecting any of those dangerous purposes he is said to have in view." He was present at Philadelphia during the session of the first continental congress, animating its members by his own zeal; and about the same time, as if to identify himself completely with the colonists in their impending struggle with the mother country, he purchased an estate of 2,400 acres in Berkeley co., Va., in the neighborhood of his friend Gates. Congress having determined after the combats at Lexington and Concord to organize a continental army, Lee was, on June 17, 1775, appointed the 2d major-general, ranking after Gen. Artemas Ward, then first in command of the New England troops encamped around Boston. Though disappointed in not receiving a higher command, to which in the opinion of many his efforts in behalf of the colonies as well as his military talents and experience entitled him, he accepted the appointment, first, however, in a letter to the British secretary at war, resigning his commission in his majesty's service, and declaring his readiness to serve the king whenever called upon "to act against the enemies of his country or in defence of his just rights and dignity." Although he was accustomed to refer to this act of his life as one which involved the confiscation of his property in England, it is proper to remark that after a conference with a committee appointed at his own request, in which he unfolded his pecuniary circumstances, congress undertook to indemnify him for any loss he might sustain by entering into their service, and subsequently advanced him \$30,000 for that purpose. Early in July, in company with Washington, he arrived at the camp at Cambridge, and formally entered the service, "a soldier of fortune," says Irving, "indifferent to the ties of home and country, drawing his sword without enthusiasm, more through resentment against a government which had disappointed him, than zeal for liberty or for colonial rights." During the summer and autumn he held command of the left wing of the American army posted on Winter hill, sustaining his reputation as a military authority, although his manners were far from agreeable, and the opinion began to gain strength that personal ambition was his main incentive in embarking in the cause of the colonies. In Nov. 1775, he visited Newport, R. I., for the purpose of erecting works

of defence, gratifying his hatred of tories while there by making them take a "tremendous oath" to support the authority of congress; and in Feb. 1776, he was sent on a similar mission to New York, whence in March he departed for Virginia to take command of the southern department. After organizing the military defence of that colony, he marched in the latter part of May toward Charleston to meet the forces which it was apprehended were to be landed from the British fleet under Sir Peter Parker. He arrived in the city June 4, and at once reported it "utterly defenceless." The fort then building on Sullivan's island he particularly objected to, predicting that it could not hold out half an hour, and calling it a "slaughter pen;" and he endeavored, though unsuccessfully, to persuade Gov. Rutledge to abandon it. During the memorable defence of the work by Col. Moultrie, June 28, he took no measures to support the garrison, and instead of supplying them with ammunition, when their stock was exhausted, counselled them to spike their guns and retreat. Nevertheless, much of the credit of the successful defence of Charleston was ascribed to him, and he returned to the North in the autumn with an enhanced military reputation, and an exaggerated notion of his own importance to the American cause. He was now, by the resignation of Gen. Ward, first major-general, occupying the second rank in the army; and many persons, contrasting his presumed successes in the South with the recent defeat on Long island, began to consider him the main hope of the army. On Oct. 14 he joined the camp on Harlem heights, and with his customary good fortune received the credit of advising the evacuation of New York island and the retrograde movement by which the plans of Howe for surrounding the American army were defeated, although the chief features of the plan had been determined upon a month previous. His division covered the retreat of the American army over King's bridge; and after the passage of Washington into New Jersey, he was left in Westchester county, in the neighborhood of New York, in command of a force of 7,000 men. From that day, says a recent biographer, "he seems to have been governed by one purpose, and animated by one spirit—a spirit of any thing but patriotism—a purpose to gratify his own personal ambition at any cost." The possession of a separate command flattered his vanity, and, impressed with the idea of attacking New York, or assailing the rear of the enemy, or performing some other exploit equally brilliant, he lingered week after week in Westchester, notwithstanding urgent appeals from Washington to join him in New Jersey; and after crossing the Hudson at Haverstraw, Dec. 2-4, he pursued his march southward with equal dilatoriness. Being "in hopes to reconquer the Jerseys," he moved in a road about 20 miles west of the British army, and, disregarding the directions of Washington, awaited the opportunity which he expected would soon present itself to make

an independent demonstration on the enemy's flank. On the morning of Dec. 13, while quartered with his aids and a small guard at White's tavern, Baskingridge, about 8 miles from his army, which was left under the command of Gen. Sullivan, he was surprised and captured by a party of British light horse under Col. Harcourt, who had received intelligence of his movements from a tory of the neighborhood. After a brief resistance Lee surrendered himself, according to the British accounts, in the most cowardly manner, and was hastily mounted behind one of the troopers, and carried away at full speed to the British camp at New Brunswick, whence about 8 hours afterward the booming of cannon proclaimed the exultation of the enemy at the capture of the "American Palladium," as Lee was styled by them. Notwithstanding the unfavorable suspicions which the circumstances attending his capture have provoked, there seems no reason to believe that he was then acting a treacherous part, or that he was guilty of any graver offence than negligence or disobedience of orders. The Americans sincerely deplored his loss, and upon learning that he was regarded by his captors as amenable to British military law as a deserter, congress at once adopted retaliatory measures, and ordered 5 Hessian field officers and Lieut. Col. Campbell to be taken into close custody, to await the fate of Lee. In consequence of the firm stand taken by congress, Gen. Howe advised the British ministry to countermand their first instructions, that Lee should be sent to England for trial, and to allow him to be considered a prisoner of war. A reluctant consent having been obtained, he was, in Dec. 1777, put upon parole, and treated with the consideration usually bestowed upon prisoners of rank. During the period that his fate was involved in uncertainty, his enthusiasm for the colonial cause seems to have yielded to solicitude for his personal safety; and the evidence is now strong that for the purpose of securing this end he was willing to betray his adopted country. From a recently discovered document in Lee's handwriting, indorsed by Henry Strachey, secretary to the royal commissioners, Lord and Sir William Howe, as "Mr. Lee's Plan," it appears that on March 29, 1777, he submitted to the British commander a project for the conquest of America, the chief feature of which was the concentration of forces at Annapolis and Alexandria for the purpose of cutting off communication between the northern and southern states; the result of which would be, that while the advance of Burgoyne from the north would give sufficient occupation to New England and New York, Howe could overwhelm the American army in New Jersey, thus "unbinging and dissolving the whole system of defence." Upon this document, the authenticity of which is deemed incontrovertible, an elaborate paper, entitled the "Treason of Charles Lee," was read before the New York historical society by George H. Moore in June, 1858. The mysterious expedition of the Howes

with the British fleet southward in the summer of 1777, it is supposed, may be explained by a reference to this plan; and Lee's request to congress, during his captivity, to be permitted to communicate to a committee of their body matters of interest to the public and to himself, may be in like manner referred to his desire to be of service to the crown in reopening negotiations with congress. In May, 1778, he was exchanged for Gen. Prescott, and joined the American camp at Valley Forge, where he received the command of a division. In the general council of officers held in the succeeding month he strongly opposed the project of attacking the British army on their march from Philadelphia through New Jersey; and he subsequently commanded the advance at the battle of Monmouth, June 28, after formally resigning the post to Lafayette. His wilful conduct on this occasion in ordering a retreat by which the day was nearly lost, against the express command of Washington, who was hurrying forward to his support with the main body of the American army, was the occasion of an outbreak of anger on the part of the commander-in-chief which was long remembered by those who witnessed it. Some, who had noted his opposition to any project for attacking the enemy, were led to suspect that he was secretly aiding them by endeavoring to procure a defeat of the Americans. It appeared afterward that his division, consisting largely of militia, had been unexpectedly attacked by the whole rear guard of the British army, and that some little confusion at first prevailed in the American ranks; but after putting the most favorable construction upon his conduct, it is impossible to absolve him from the charge of irresolution and negligence unworthy of a commanding officer. Such was substantially the verdict of the court martial convened to examine into his conduct at Monmouth, who also found him guilty of writing disrespectful letters to the commander-in-chief, and sentenced him to suspension from any command in the army for one year. He was not prepared for this sentence, having expected from the ingenuity and ability of his defence to be triumphantly acquitted; and during the delay of congress to affirm it, his naturally irascible temper betrayed him into frequent acts of imprudence, which only increased the feeling of suspicion and dislike with which he was beginning to be regarded. For the disparaging manner in which he spoke of Washington he was challenged by Col. Laurens, one of the latter's aids, and was wounded in the side by a pistol ball in the duel which ensued. Congress having ratified his sentence, he retired to his estate in Virginia, where he wrote for the "Maryland Journal" his "Queries, Political and Military," the drift of which was to cast a slur upon the character and military conduct of Washington. He inhabited a house rudely and hastily constructed, without partitions, and almost without the necessary furniture, where, surrounded by his dogs, of which he was im-

moderately fond, and his books, he lived "more like a hermit than a citizen of the world." The divisions of the apartments were marked by lines of chalk, which he claimed was an improvement upon walls. The term of his suspension had just expired when a rumor reached him that congress designed to deprive him of his commission. In a sudden fit of anger he despatched to the president of that body an insulting note, the result of which was his immediate dismissal from the service. He continued to reside on his estate; but he soon wearied of the life of a planter, and in the autumn of 1782 visited Baltimore and Philadelphia with a view of negotiating for the sale of his estate. In the latter place he was attacked by a fever of which he died within 5 days, exclaiming in the delirium of his last moments: "Stand by me, my brave grenadiers." With characteristic eccentricity he directed in his will that his body should not be interred in any church or church yard, or within a mile of any Presbyterian or Anabaptist church. He was, however, buried in the cemetery of Christ church, whither his remains were attended by a large concourse, including many whom his wayward conduct had not entirely alienated, and who gratefully remembered his early efforts for colonial freedom, and his occasional generous acts and impulses. His memoirs have been written by Edward Langworthy, by his kinsman Sir Henry Bunbury, and by Jared Sparks (Sparks's "American Biography"); and a volume entitled "Memoirs of the Life and Treason of Charles Lee," by George H. Moore of New York, has recently (1860) been announced.

LEE, ELIZA BUCKMINSTER, an American authoress, born in Portsmouth, N. H., about the beginning of the present century. She is a daughter of the Rev. Dr. Joseph Buckminster, an eminent Congregational divine, for many years settled at Portsmouth, from whom as well as from her brother, the Rev. Joseph Stevens Buckminster, she acquired a classical education and a fondness for literary pursuits. She was married to Mr. Thomas Lee of Boston, in which city and its vicinity the greater part of her life has been passed. Her career as an authoress commenced with the publication of "Sketches of a New England Village" (1837), followed by "Delusion." In 1842 appeared her "Life of Jean Paul Richter" (12mo., New York), translated from the German, and in 1845 she published "Walt and Vult, or the Twins," from Richter's *Flegeljahre*. Her remaining works are: "Naomi, or Boston Two Hundred Years Ago" (16mo., Boston, 1848), one of her best original tales; "Memoir of Rev. Dr. Buckminster and Joseph Stevens Buckminster" (12mo., 1849); "Florence, the Parish Orphan" (16mo., 1850); "Parthenia, or the Last Days of Paganism" (12mo., 1858); and "The Bare-Footed Maiden," a translation from Auerbach.

LEE, EZRA, an American revolutionary soldier, born in Connecticut in 1749, died in Lyme, Conn., in 1821. In Aug. 1776, he volunteered

on the hazardous enterprise of affixing Bumbell's infernal machine to the British ship Eagle, then lying in New York harbor; but the attempt, owing to the thickness of her copper sheathing, was only partially successful. He landed safely after remaining several hours in the water, and received the congratulations of Washington. He served with credit at Monmouth and in other battles of the revolution.

LEE, HANNAH F. (SAWYER), an American authoress, born in Newburyport, Mass. She is the daughter of a physician of eminence in her native place, and for many years has resided in Boston. Her first known publication was the appendix to Miss Hannah Adams's memoir of herself, which was succeeded by "Grace Seymour," a novel, and "Three Experiments of Living," published in 1838. The subject of the latter work was suggested by the commercial disasters of the time; it has gone through upward of 80 editions in the United States, beside many in Europe, and is esteemed the authoress's best work. Her remaining works are: "The Old Painters," a series of sketches combining fiction and fact, illustrating the history of painting; "Eleanor Fulton," a sequel to "Three Experiments of Living;" "Rich Enough;" "Luther and his Times;" "Cranmer and his Times;" "The Huguenots in France and America;" "The World before You;" "Stories from Life" (1849); "History of Sculpture and Sculptors" (1854), &c.

LEE, HENRY, an American soldier, and governor of Virginia, born in Westmoreland co., Va., Jan. 29, 1756, died at Cumberland island, Ga., March 25, 1816. His father was Henry Lee, first cousin of Richard Henry and Arthur Lee; his mother Mary Bland, daughter of Col. Bland of Jordans, in Prince George co., Va. He received his early education from a private tutor, and was afterward sent to Princeton college, then presided over by Dr. Witherspoon. While at college Dr. Shippen predicted his future distinction. He graduated in 1774, in his 18th year, and returning home took charge of all the private affairs of his father, who was then engaged in negotiating a treaty with some Indian tribes on behalf of the colony. This charge he executed with great prudence, industry, and ability for one so young. In 1776, when 20 years of age, he was appointed, on the nomination of Patrick Henry, captain of a company of cavalry in Col. Theodorick Bland's "Virginia regiment," and in Sept. 1777, marched with his regiment to join the main army. He soon distinguished himself by the excellent discipline which he introduced into his company, the care which he took of his men and horses, and by skirmishing, foraging, and procuring information of the movements of the enemy. He was enabled by his strict discipline to move with celerity and effect, and seems at once to have adopted that rapid and daring system of tactics which made "Lee's legion" afterward so efficient in the South. It is certain that his vigilance and zeal secured for him the respect and

confidence of Washington, who selected Capt. Lee's company for his body guard at the battle of Germantown. The enemy seem also to have formed a high opinion of his abilities, and of the importance of taking him prisoner. In Jan. 1778, it was discovered that Capt. Lee, with only 10 men, was at a stone house not far from the British lines. A design was immediately formed to capture him; and 200 troopers were detached to make a circuit and fall upon him by surprise. The troopers approached without his knowledge, seized 4 of his patrols who were prowling in search of forage, and attacked him before he was aware of their vicinity. He made a desperate defence, and the enemy were forced to retire with a loss of 4 killed, and one officer and 3 privates wounded. Of his own men, beside the patrols and the quartermaster sergeant, who were made prisoners, he had but 2 wounded. Washington wrote him a letter complimenting him upon his gallantry on this occasion, and he was soon afterward raised to the rank of major, with the command of an independent partisan corps of 2 companies of cavalry, subsequently enlarged to 8, and a body of infantry. He continued in active service, and on July 19, 1779, at the head of a body of 800 men, surprised the British garrison at Paulus Hook, took 160 prisoners, and effected his retreat with the loss of only 2 men killed and 3 wounded. For the "prudence, address, and bravery" which he displayed in this affair, congress voted him a gold medal. In Jan. 1781, he marched his legion to the South, and joined the army of Greene, with the rank of lieutenant-colonel. In the great retreat of Greene before Lord Cornwallis, Lee's legion formed the rear guard of the American army, the post of greatest danger. The pursuit was hot, and at one time the rear guard came in contact with the troopers of Tarleton. Lee charged Tarleton, killed 18 of his men, and took one captain and several privates prisoners. When Greene had effected his retreat, he despatched Lee and Col. Pickens into North Carolina, to watch and harass the movements of Cornwallis. On their march they fell in with a couple of messengers from Col. Pyle, commander of a body of 400 Tories, to Cornwallis. The messengers, supposing from the accoutrements of the troopers that Lee was Tarleton, communicated to him the substance of their instructions, which embraced full information of Pyle's intended movements. Lee did not undeceive them, personated Tarleton throughout, and despatched one of the messengers back to Pyle, directing him to post himself with his force at a place which he indicated. The Tories accordingly took their position, and the troopers came up with them, and charged and defeated them, killing 90, and taking others prisoners. At the battle of Guilford Court House Lee performed very important services, and greatly distinguished himself. On the morning of the day of battle he encountered Tarleton's celebrated troop of cavalry, and drove them back with considerable loss. In the main

engagement he was stationed with his legion on the left wing of Greene's army; and although the body of militia, which composed the principal force attached to his position, abandoned him at the very commencement of the action, Lee obstinately held his ground, and kept the enemy at bay until he received the order to fall back upon the main body, whose retreat he covered. It was by the advice of Lee that Greene came to his celebrated and daring decision not to follow Cornwallis into Virginia, but to leave that province to its fate, and march southward, with the view of ending the conflict in South Carolina and Georgia. The praise or blame attached to this extreme step must therefore be shared between the two commanders. The result is known, and fully vindicated the expediency of the movement, cruel as it appeared to Virginia in her prostrate condition. In pursuance of his plan of operations, Greene detached Lee with his legion to join the body of partisans under Marion, and fall upon the lesser posts of the enemy. By a series of vigorous operations, Forts Watson, Motte, and Granby were speedily compelled to surrender; and Lee was then ordered to join Pickens, and assist him in the attack upon Augusta. On his way he surprised and took Fort Galphin. The defences of Augusta consisted of Fort Cornwallis and Fort Grierson. The latter was taken by assault, and the former at the end of a siege of 16 days. Col. Brown, its commander, was particularly obnoxious to the Americans, and his life was only preserved by the interposition of Lee. That officer marched with his prisoners to rejoin the army of Greene, which had sat down before Fort Ninety-Six. Lee was intrusted with an important position when the attempt was made to take the place by storm. He led the assault with his habitual daring, and was completely successful; but the other division failed in its object, and the advance of Lord Rawdon compelled Greene to abandon the siege. His gallantry at the battle of Eutaw contributed largely to the result of that action. His legion covered the right flank, and when the militia gave ground before the enemy, he obstinately maintained his position unsupported. His order to Capt. Rudolph, of the infantry corps attached to his legion, to turn the enemy's flank, and give them a raking fire, resulted in the retreat of the left wing of the British forces, which were completely broken, and driven from the field. The charge upon the enemy's right was not so fortunate, and the Americans were compelled to retire. It is more than probable that Lee's impetuous charge alone saved the army from defeat. The revolutionary struggle was now drawing to a close. Greene had rightly supposed that the main army under Washington was more than a match for the force of Cornwallis. In October, soon after the battle of Eutaw, Lee was sent on a special mission to Washington, with the request from Greene that he would prevail on the count de Grasse to afford naval assistance in the proposed siege of

Charleston; and he arrived at Yorktown about the period of the surrender of Cornwallis. Lee's relations with Greene have been misrepresented by the partisan adherents of that great and excellent man. Lee fancied that he had been injured by the neglect of Greene to speak of him in his general reports as his services deserved; and a correspondence ensued upon the subject in 1782. The general declared that Lee's wish to retire originated, he believed, in "distress" rather than the injuries which his health had undergone, and combated his resolution in a tone of affectionate remonstrance. He had been under obligations to Lee, he said, which he could "never cancel." As to his military services, Greene wrote: "I believe that few officers, either in Europe or America, are held in so high a point of estimation as you are. . . . Every body knows I have the highest opinion of you as an officer, and you know I love you as a friend. No man in the progress of the campaign had equal merit with yourself." The friendly relations afterward subsisting between these two eminent men, and the manner in which Lee speaks of Greene in his memoirs of the southern campaign, show that this temporary misunderstanding did not continue. Finding his services no longer necessary, however, Lee retired from the army, and returned to Virginia. He settled down at Stratford, the old family mansion in Westmoreland, and was soon afterward married to his cousin Matilda, daughter of Philip Ludwell Lee. Upon the death of this lady, he married Ann, daughter of Charles Carter. In 1786 he was appointed by the Virginia assembly one of the delegates to congress, in which body he remained until the federal constitution went into operation. In 1788 he was a member of the Virginia convention to decide upon the adoption of the proposed instrument, and took a prominent position among the advocates of the measure. He subsequently served in the Virginia house of delegates, and in 1792 was elected governor of the commonwealth for the term of three years. In 1794 occurred the whiskey insurrection in Pennsylvania. Every peaceable attempt to suppress the outbreak having failed, the president ordered a military force to be raised, which he placed under the command of Lee. The advance of the well known partisan of the revolution at the head of 15,000 men speedily terminated all resistance, and Lee soon returned to Virginia. In 1799 he again served in congress; and when intelligence was received of the death of Washington he was appointed by the house to pronounce a eulogium. The resolutions which he drew up on this occasion, and which were presented, during his temporary absence, by his friend Judge Marshall, contained the words now so celebrated: "First in war, first in peace, and first in the hearts of his countrymen." On the election of Jefferson to the presidency in 1801, he retired from public affairs, and established himself as a country gentleman in Virginia. The remainder of his life was not, how-

ever, to be tranquil. The profuse hospitality and free mode of living then the fashion plunged him into pecuniary trouble, and terminated in the ruin of his estate. He was even arrested for debt, and, if the statement of some persons be credited, lodged in the gaol of Spottsylvania. The more probable account is, that he was confined within "the limits" of that county only. Here, in the year 1809, he wrote his "Memoirs of the War in the Southern Department of the United States," which deservedly ranks among the most valuable and interesting works of a similar description which have ever been written. It seems to have been largely based upon communications from his brother officers, is written with candor and impartiality, and possesses the charm peculiar to writers who have witnessed with their own eyes the scenes which they describe. No subsequent traces of the life of Lee remain, up to the year 1814. He seems to have been harassed by pecuniary trouble, but not to have discarded his habits of free living. In 1814 he was in Baltimore when the riots connected with the "Federal Republican" newspaper took place, and exposed himself by the part which he took in them to serious injury. The printing office of the journal was destroyed by the mob, and an attack upon the dwelling of the editor followed. Lee was a personal friend of this gentleman, and with characteristic impetuosity offered to aid him in defending his house. The result was that two of the assailants were killed, and a number wounded; which so inflamed the rage of the crowd, that but for the arrival of the city military, Lee and his friends would in all probability have been torn to pieces. They were conducted by the military to the city gaol for safety; but during the night the mob reassembled in greater force, broke open the gaol, and either killed or shockingly maimed all its inmates. From the injuries which he received on this occasion Lee never recovered. He made a voyage to the West India islands for the restoration of his health, but all his hopes failed. Finding his strength giving way, he returned to the United States in 1818, and in that year died at Cumberland island, Georgia.—In person Lee was above the medium height, well proportioned, and pleasing. His complexion was dark; his manner the frank and open address of a soldier. Self-esteem, based upon the conscious possession of commanding talents, was a marked trait of his character; and in this doubtless originated his misunderstanding with Greene. The opinion formed by that great soldier of his military genius has been stated: "No man in the progress of the southern campaign had equal merit with Lee;" and if the conspicuous services of Morgan, Marion, Sumter, Pickens, and Washington be recalled, the extent of this commendation will be understood. Greene was eminently just and impartial to all his officers, and thus his estimate of Lee's abilities is conclusive. The "love and thanks" expressed in a letter to Lee from Gen. Washington in 1789, exhibit the affection

which his generous qualities had inspired in the bosom of the chief; and in Virginia he is still known by the name of "Legion Harry," in allusion to the rapid and daring movements of his partisan corps in the campaign of the Carolinas.

LEE, JESSE, an American clergyman, born in Virginia in 1758, died in Sept. 1816. He became a preacher among the Methodists in 1788, and a travelling companion of Bishop Asbury. His "Notes" have been the basis of much of the history of early Methodism in America. He was chaplain to congress during 6 successive terms. He is best known as the apostle of Methodism in New England.

LEE, LEROY MADISON, D.D., an American clergyman, born in Petersburg, Va., April 30, 1808. He studied law, but entered the ministry of the Methodist Episcopal church in 1828. He has published several sermons, "Letters to a Young Convert," "Life and Times of Jesse Lee," a small volume on confirmation, and another on perseverance. In 1836 he became editor of the "Richmond Christian Advocate," and, having resigned the post in the following year on account of ill health, was reelected in 1839, and continued till Dec. 1858.

LEE, LUTHER, D.D., an American clergyman and author, born in Scholario, N. Y., in 1800. Having acquired an education mainly by his unaided exertions, he joined the Methodist Episcopal church in 1821, and soon began to preach. In 1827 he joined the Genesee conference, became a travelling preacher, engaged in several public discussions on theological questions, and was a prominent lecturer on temperance. In 1836 he began to preach against slavery, and during the two years that he was thus engaged he was mobbed several times. In 1841 he edited the "New England Christian Advocate," an anti-slavery journal published at Lowell, Mass. Soon after he issued a paper named the "Sword of Truth," and in the autumn of 1842 he joined the Rev. Orange Scott and others in seceding from the Methodist church, and began with them a weekly journal styled the "True Wesleyan." When, in 1843, the "Wesleyan Methodist Connection" was organized, he became pastor of the Wesleyan church in Syracuse, N. Y. In 1844, at the first Wesleyan Methodist general conference, he was chosen president, and elected to be editor of the "True Wesleyan," which had become the organ of the new body, and was thenceforward to be published in New York. In that city he resided till 1852, when he resigned the editorship, and removed to Syracuse, again to take charge of the Wesleyan church there. In 1854-'5 he edited a periodical entitled "The Evangelical Pulpit." In 1856 he was elected president and professor of theology of Michigan Union college, at Leoni, Mich.; but he resigned in 1857, and removed to Felicity, O., where he remained two years. He then became pastor of a church in Chagrin Falls, O., where he has since resided. In 1859 he received from Middlebury college, Vt., the degree of D.D. Dr.

Lee is the author of "Universalism Examined and Exposed" (1846); "The Immortality of the Soul;" "Revival Manual" (1850); "Ecclesiastical Manual, or Scriptural Church Government Stated and Defended" (1850); "Slavery Examined in the Light of the Bible" (1855); and "Elements of Theology, or an Exposition of the Divine Origin, Doctrines, Morals, and Institutions of Christianity" (1856).

LEE, MARY E., an American authoress, born in Charleston, S. C., March 23, 1818, died there, Sept. 23, 1849. She early indicated literary tastes, and became familiar with the French, German, and Italian languages, from which she translated freely for the magazines. She also wrote original pieces in prose and verse for the "Southern Review" and other periodicals. A volume of "Tales from History" from her pen, designed for the young, was published by the Massachusetts library association. She was afflicted by disease through life, lost the use of her right hand by paralysis, and continued to write with her left hand during the progress of the malady. A selection from her poems was published after her death, with a memoir by Samuel Gilman, D.D.

LEE, NATHANIEL, an English dramatic poet, born in Hatfield, Hertfordshire, about 1657, killed in London in 1690. He was educated at Trinity college, Cambridge, and on leaving the university tried to push his fortunes at court; but not being successful, he began to write for the stage. From 1675 to 1681 he produced a new play every year. In 1684 he became insane and was confined in Bedlam for 4 years, when, having recovered his reason, he was liberated and resumed his former occupation. He is said to have lost his life in a nocturnal riot. He was an admirer and imitator of Dryden, whom he assisted in writing "Edipus" and the "Duke of Guise." He was the author of 11 tragedies, 2 of which, "Theodosius" and "Alexander the Great," were long popular on the stage.

LEE, MRS. R. BOWDICH, an English authoress, born about 1800, died in 1856. During a residence at Cape Coast Colony in Africa, whither her first husband, Mr. T. E. Bowdich, had been sent on a mission of pacification to the Ashantees, she collected the materials for an interesting work on the aborigines of that country, which appeared in 1825 under the title of "Stories of Strange Lands." Another work of the same character, entitled "The African Wanderers" (3d ed. 1854), has been highly esteemed for the charm of its narrative and the exactness of its descriptions. Subsequently Mrs. Bowdich resided for many years in Paris, where she married her second husband, Mr. Lee. While there she enjoyed the friendship of Cuvier, of whom she wrote a memoir, and of other eminent authors and naturalists. Her remaining works are for the most part popular treatises on subjects connected with natural history. Among them are: "Elements of Natural History—Zoology;" "Taxidermy;" "Beauties, Uses, &c., of Trees, Plants, and Flowers;" "Familiar Natu-

ral History," &c. Some of these have passed through repeated editions.

LEE, SAMUEL, the first minister of Bristol, R. I., born in London, England, in 1625, died in St. Malo, France, in Dec. 1691. He was graduated at Oxford in 1648, subsequently took orders, and was preferred by Cromwell to a church near Bishopsgate, London, from which, being a non-conformist, he was ejected in 1662. For a number of years he preached in Oxfordshire, and between 1678 and 1686 he was minister of an Independent church at Newington Green near London. In the latter year, apprehending that he might be disturbed in the discharge of his duties, he emigrated to New England, and upon the formation of a church in Bristol, R. I., became its first minister. After the revolution of 1688 he prepared to return to England, and on the voyage thither was captured by a French privateer and taken into St. Malo, where he died soon after. He was a man of learning, and at one time made a special study of the astrological art; but becoming convinced of the sinfulness of this pursuit, he burned his collection relating to the subject. He is the author of "Orbis Miraculum, or the Temple of Solomon portrayed by Scripture Light" (fol., London, 1659), and of a number of occasional sermons.

LEE, SAMUEL, D.D., an English clergyman and scholar, born in Longnor, Shropshire, May 14, 1783, died in Barley, Hertfordshire, Dec. 16, 1852. He was the son of poor parents, was educated at the charity school of his native village, and at the age of 13 was apprenticed to a carpenter. While laboring at his craft he mastered the Latin, Greek, Hebrew, Chaldaic, and Syriac languages. He subsequently acquired a knowledge of Arabic, Persian, French, German, and Italian, with the assistance of Archdeacon Corbett, who in 1810 procured his appointment to the mastership of a foundation school at Shrewsbury. He entered Queen's college, Cambridge, in 1813, was graduated in due course, took orders, and in 1819 became professor of Arabic at his university. In 1831 he was elected regius professor of Hebrew in the university of Cambridge, which in 1833 conferred on him the degree of D.D., an honor received by him more than 10 years before from the German university of Halle. His chief publications were: "Hebrew Grammar" (1830); "The Travels of Ibn Batuta," translated from the Arabic (1833); a translation of Job (1837); and a "Hebrew and English Lexicon" (1840).

LEE, SOPHIA, an English authoress, born in London in May, 1750, died at Clifton, near Bristol, March 13, 1824. Her father, a man of acquirements and amiable character, who had been attracted to the stage by the genius of Garrick, gave every attention to the education of his children, and upon the death of his wife found a ready and competent assistant in his eldest daughter, Sophia. The latter made her first appearance before the public in 1780 as the author of a comedy entitled "The Chapter of Accidents," which was brought out at the Haymar-

ket theatre with great success. In the succeeding year her father died, and Miss Lee removed with her sisters to Bath, where she devoted the profits of her play to the establishment of a young ladies' seminary, over which she and her sister Harriet presided for many years. In 1785 she published the "Recess," a historical tale of a rather sombre character, which attained considerable popularity, and which was followed by "Almeyda," a tragedy, performed with moderate success; the "Life of a Lover," a novel in 6 vols.; and an unsuccessful comedy, the "Assignation." She also furnished the "Young Lady's Tale" and the "Clergyman's Tale" to the series of "Canterbury Tales," written by her sister Harriet and herself, which are considered her best productions. In 1803 she gave up her seminary, and passed the remainder of her life in retirement. Her conversational powers were remarkable.—HARRIET, sister of the preceding, born in London in 1756, died at Clifton, Aug. 1, 1851. Her first appearance as an authoress took place in 1786, when she published the "Errors of Innocence," a novel in 5 vols., succeeded by several others now forgotten. In 1797 appeared the first volume of her "Canterbury Tales," followed at intervals of a few years by 4 others under the same title, the contents of which were for the most part of her own composition. They enjoyed a great popularity in the early part of the century; and a new edition was published in New York in 1856-'7 (3 vols. 12mo.). One of the most remarkable is "The German's Tale—Kruitznier," from which Lord Byron borrowed not merely the plot and the machinery down to the most trivial incidents, but in some instances the language, of his "Werner." She also produced two dramas, the "New Peerage" and the "Three Strangers," the latter of which failed at Covent Garden in 1835.

LEE, THOMAS, an American judge and politician, born in Charleston, S. C., Dec. 1, 1769, died Oct. 23, 1839. He was educated in his native city, and became a student of law at the age of 16. He was elected at an early age to the legislature as a member of the republican party, and served for several years. In 1794 he became a state solicitor, and in 1804 one of the associate judges of the state. The latter office he resigned in consequence of ill health, and was shortly after made comptroller-general of the state, in which position he remained till 1816. In the following year he became president of the state bank of Charleston; in 1823 he represented St. Philip's and St. Michael's in the state legislature, where he spoke with great effect; and in 1823 was appointed by President Monroe judge of the U. S. district court for South Carolina, which office he held till the close of his life. He presided in this court in the period of nullification, when the Bond case came up for the recovery of duties under the tariff; and he ruled out the defence offered by Mr. McDuffie under the state ordinance by which the tariff had been vetoed in South Caro-

lina, and thus defeated the attempt to bring the case before a jury. He was one of the leaders of the union party in this conflict, and an able writer in its defence. He was also active in the temperance reform and in benevolent enterprises.

LEECH, a red-blooded, footless, smooth-bodied, abbranchiate annelid, of the family *hirudinei*, and genus *sanguisuga* (Sav.) or *hirudo* (Linn.). The body is soft, retractile, composed of numerous segments, with a sucker at the posterior extremity, serving both to attach and to move the animal. The muscular system is well developed, closely embracing the viscera; the sucker has both circular and radiating fibres. The nervous system consists of a large anterior cerebral ganglion, and a chain of ventral ganglia connected by two contiguous cords; the ganglia are fewer than the segments, the first and last being the largest, the former sending filaments to the lips and the latter to the sucker; there is also a splanchnic system of small anterior ganglia which send filaments to the parts about the mouth and to the intestinal canal. The sense of touch is particularly developed at the anterior extremity. There are 10 eye specks symmetrically arranged upon the neck, each a transparent cylindrical body bulging out under the skin like a cornea, enveloped in a layer of black pigment, receiving a filament from the cephalic ganglion, according to Wagner having a lens and a vitreous body (though this is denied by others), and constituting light-perceiving if not light-refracting organs. The flattened body tapers toward each end, the mouth being at the anterior extremity and provided with a sucking apparatus; at the base of the pharynx are 3 fleshy swellings, the projecting border of which is edged with bicuspid teeth, causing wounds shaped like a 3-rayed star. The intestinal canal is straight, but deeply constricted in many places, each such portion sending off short cæca on each side; the anal opening is on the back directly above the posterior sucker. There are salivary glands around the commencement of the intestine, and a glandular hepatic organ envelopes a great part of this canal. The blood contains colorless granulated globules; there is a central contractile vessel, and a circulation and oscillation in longitudinal and lateral vessels. Respiration is effected by means of 17 pairs of internal branchiæ or aquiferous canals without ciliated epithelium, opening upon the ventral surface of the body, and surrounded by a net-work of blood vessels. Reproduction is effected by sexual organs, and the two sexes are united in the same individual, they being true hermaphrodites; the eggs, from 6 to 15, are contained in a cocoon surrounded by a thick spongy substance said to be ejected from the mouth, deposited near the edge of the water, and hatched by the heat of the sun; the young leave the egg without undergoing any metamorphosis. The leech inhabits the water principally, and swims with a vertical undulating motion; out of the water it moves by the

disks or suckers, fastening itself first by one and then by the other, alternately stretching and contracting the body; it is torpid in winter, hiding in the mud; it can live a long time in sphagnum moss or in moist earth, and can thus be transported for long distances. Leeches live at the expense of other animals, whose blood they suck; they attach themselves to fishes, batrachians, invertebrates, and to mammals and men that venture into the fresh waters inhabited by them. Many species are used for medical purposes, of which the most common are the gray and the green leeches of Europe (*S. medicinalis* and *officinalis*, Say.), generally considered varieties of one species; both have 6 longitudinal ferruginous stripes on the back, the 4 lateral ones interrupted by black spots; the back varies from blackish to grayish green; the under parts in the first variety are greenish with black spots and edgings, in the second yellowish green without spots; the length varies from 2 to 4 inches. They formerly inhabited in great numbers the marshes and streams of most countries of Europe; but of late years the demand for medical purposes has exhausted most of the localities in central and southern Europe; the Swedish leeches are now generally considered the best. There are many American species, of which the *hirudo decoræ* (Say) is extensively used in the interior of the middle states; the color is deep greenish above with 8 rows of square spots, the central brownish orange, and the lateral black; the under parts are spotted with black; it varies in length from 8 to 5 inches; it is especially abundant in Pennsylvania, and several hundred thousand are employed annually.—Leeches afford the least painful and in many cases the only practicable means of local depletion, and are precious instruments in the hands of the physician. They will generally bite eagerly, and will draw from $\frac{1}{4}$ of an ounce to an ounce of blood, according to the vigor and size of the animal and the vascularity of the part to which it is applied; when full they drop off, though they will sometimes continue to draw after their tails are cut off; the application of a little salt will make them drop at any time; bathing the part with warm water will increase the quantity of blood lost. When gorged with blood, digestion may not be completed for many months; hence it is customary to strip them by drawing the body between the fingers from the tail to the head, the little that remains serving to keep them in good condition for a long time, if they be kept in clean and frequently changed water. Full leeches are liable to disease and to induce it in others, and should be kept by themselves, not to be used until they have regained their activity; as they often change the slimy coat on their skin, they require moss and roots to draw themselves through in order to keep healthy. In the rare cases in which leech bites bleed too long, the flow may be arrested by pressure, alum solution, caustic, or a superficial suture. The application of leeches requires some skill and attention, and

is often usefully placed in the hands of special practitioners, both male and female.—The horse leech (*hemipis*, Sav.) is a larger species, differing principally by the oval and slightly toothed jaws; it will not attack man, and it is doubtful if it attaches itself to horses and other animals; it devours other worms, swallowing them whole. The leech family is a large one, and can be studied only in special treatises, of which a long list is given in the chapter on annelids in Siebold's "Comparative Anatomy."

LEECH, JOHN, an English humorous artist, born in London about 1816. He was educated at the Charterhouse, and soon after the establishment of "Punch" brought himself into notice by his humorous illustrations for that serial. Several thousand sketches, illustrating the politics, fashions, and follies of the day, testify to the industry of his pencil and the fertility of his invention; and the greater part of these, though hastily thrown off, have artistic merit as well as humor, the drawing and expression being in most cases excellent. The social extravagances of England have never found a more apt or kindly delineator; but in sporting scenes, particularly those in which the horse is introduced, he is preëminent. He has been connected with "Punch" almost ever since its establishment, and has from time to time published collections of his pictorial contributions to its columns, of which 8 volumes have appeared, entitled "Pictures of Life and Character, from the Portfolio of Mr. Punch," each containing 500 woodcuts. He has also illustrated several of Albert Smith's novels, the "Comic History of England," &c., and has published under his own name "The Rising Generation, a Series of Twelve Drawings on Stone" (1848), and other works.

LEEDS, an E. co. of Canada West, on the N. bank of the river St. Lawrence; area, 805 sq. m.; pop. in 1851, 80,280. It has a rough, hilly surface, diversified by a number of small lakes in which rise Cataraqui and Rideau rivers. The soil is generally fertile. Wheat, oats, potatoes, Indian corn, peas, buckwheat, and rye are the principal productions. Capital, Brockville.

LEEDS, a municipal and parliamentary borough of the W. riding of Yorkshire, England, situated on both sides, but chiefly on the left, of the navigable river Aire, 24 m. W. S. W. from York and 206 m. by railway N. N. W. from London; pop. in 1851, 172,270; in 1858, estimated at 191,693. Its site was probably at one time a Roman station; it was subsequently occupied by the Northmen, and in succession by the Saxons and Normans. The name Loidis (Leeds) is Saxon. As a manufacturing town it dates back only to the 16th century. The principal and best part of Leeds stands on the slope of a hill N. of the Aire. Most of the town is irregularly built, with narrow and crooked streets; but in the centre and W. the streets are wide and handsome, being lined with modern buildings. Two stone bridges and 4 of iron cross the river, on the S. side of which are the

extensive suburbs of Holbeck and Hunslet. The streets are well paved and the sidewalks flagged and lighted with gas, and an abundant supply of water is conveyed from the Harewood hills, 5 or 6 miles distant. There are many handsome public buildings. Many new buildings have been erected within the last few years, as a Roman Catholic church, a market hall, and especially the town hall, completed in 1858. Improvements are in steady progress. The largest buildings are the cloth halls, in which the cloth markets are held, the commercial buildings, 8 market houses, the corn exchange, the court house, the town hall, the stock exchange, the gaol, the cavalry barracks, &c., and the places of public amusement. Many of the churches are large and elegant buildings. In 1851 there were 187 places of worship, of which 86 belonged to the church of England. The total number of sittings provided was 76,488. In the same year Leeds had 871 day schools, of which 76 were public with 13,176 scholars, and 295 private with 8,658 scholars. Included among these is the Leeds free grammar school, founded in 1552 and endowed with an income of about £2,000 per annum; in 1851 it had 169 scholars. The number of Sunday schools was 147, with 28,761 scholars. The industrial school at Burmantofts, opened in 1848, is a large and very complete establishment, the buildings forming a capacious and ornamental Elizabethan pile, and the grounds covering 6 acres. Leeds possesses an excellent library founded by Dr. Priestley in 1768; the library and museum of the literary and philosophical society; a mechanics' institution with 2,000 members and 8,000 volumes; a school of design, a medical school, &c. The charitable institutions are: the Leeds infirmary with 150 beds, the house of recovery for fever patients, a dispensary, an eye and ear infirmary, a lying-in hospital, and several almshouses for the poor and aged. Leeds is particularly distinguished for its musical festivals. Mr. Robert Baker, one of the inspectors of factories, estimates the increase of population in Leeds at 12 per cent. from 1851 to 1858. The number of inhabited houses in Leeds proper in 1851 was 21,061, and in 1858 28,518. The woollen manufacture in 1858 employed 10,198 persons, who received £870,995 in wages; the number of firms engaged in them was 128. There were 952 power looms and 16 rag machines; nominal horse power 2,924. The worsted trade in 1855 employed 9 mills, with 9,716 spindles, 655 power looms, and 1,077 persons; in 1858, 4 mills, 120 horse power, with 10,000 spindles, and only 540 persons. The flax manufacture consumes annually 12,000 tons of flax, and employs 32 firms, 1,818 horse power, 9,020 persons of all ages, 149,454 spindles, 352 power looms, and 840 hand looms. Dyeing, iron and machine making, the manufacture of paper, tobacco, pottery, oil, and chemicals, and coal mining, form also important branches of industry. The coal and iron miners are estimated at 2,000, and nearly 700,000 tons of coal are consumed by 256 en-

gines of 5,540 horse power. There is also a large silk manufactory employing 550 persons. Nearly $\frac{1}{2}$ of the whole population, or about 46,000, half of whom are females, were employed in the various manufactories in 1858, receiving £1,752,689 in wages. Notwithstanding this increased prosperity, there is still much pauperism, and 17,487 poor were relieved in 1857. No other town in England is so admirably situated for trade, being placed in the heart of the inland navigation of the country. It communicates with the sea eastward by means of the Aire and Calder navigation to the Humber, and westward by the Leeds and Liverpool canal to the Mersey. The warehouses of the Aire and Calder company are of great dimensions, and there are convenient docks. Leeds is also the centre of a net-work of railroads converging to it from all parts of the country, and placing it in connection with every important town of the kingdom. The borough, which is divided into 12 wards, is governed by 16 aldermen and 48 councillors, one of whom is mayor; it sends two members to parliament. About 2 m. from Leeds are the ruins of Kirkstall abbey.

LEEMANS, CONRADUS, a Dutch archæologist, born in Zalt Boemel, Gelderland, April 28, 1809. He studied theology and archæology at the university of Leyden, and in 1829 went to Paris, where he remained two years. He returned to his country to take part in the war against Belgium, and after its conclusion made a visit to England. He has officiated since 1839 as director of the museum of Leyden. Having long studied Egyptian antiquities, he published in 1835 a critical edition of the *Hieroglyphica* of Horapollo, and began the publication of a great work on the Egyptian antiquities of the museum of Leyden, which was concluded in 1854. He has also published various other works of a similar character.

LEES, FREDERIC RICHARD, an English temperance orator, born at Meanwood Hall, near Leeds, Yorkshire, March 15, 1815. He was educated for the law, but abandoned it in consequence of ill health and distaste. When 19 years old he connected himself with the temperance cause, and in the following year with the total abstinence movement, and has ever since been its most prominent advocate. His first appearance as a public debater on this question was at a great meeting in Leeds in 1836. From 1837 to 1840 he held various discussions with the Owenites, and published in 1838-'9 the "Metaphysics of Owenism Dissected." From 1841 to 1844 he gained several prizes for essays on temperance; and in 1856 he gained £100, offered by the United Kingdom alliance for an argument for the legislative prohibition of the liquor traffic. In 1843 he held a discussion with Mr. Jefferson, a surgeon, in which he explained the bearing of the discoveries of Liebig on the temperance question. In 1845 he started "The Truth Seeker in Literature, Philosophy, and Religion," a magazine devoted to free and catholic inquiry, and to transcendental and spiritual

philosophy, which continued through 6 volumes. In 1848 he held discussions with several of the physicians of Newcastle, and was presented with a public testimonial. In 1853 he visited the world's temperance convention in New York as the representative of the British temperance associations of the north of England, and in 1856 and 1857 he attended the international congress of benevolence at Brussels and Frankfort, as a representative of the United Kingdom alliance. In 1842 the university of Giessen conferred upon him the degree of Ph.D. In 1860 he received a public testimonial of 1,000 guineas from the friends of temperance in Great Britain. Mr. Lees contributed a number of articles on the wines of Scripture to Kitto's "Cyclopædia of Biblical Literature," and is the author of a "History of Alcohol" (1843), and of a "Treatise on Logic, or the Method, Means, and Matter of Argument."

LEESER, ISAAC, an American rabbi and religious writer, born in Neunkirch, Westphalia, in 1806. In 1825 he emigrated to the United States, where for a short time he devoted himself to commerce. In 1829 he became rabbi of the principal synagogue of Philadelphia, and has since acquired an extensive reputation by his contributions to literature, referring principally to Jewish history and theology. Since 1843 he has edited "The Jewish Advocate" (or "Occident"), a journal devoted to the interests of his creed. Among his works are: "The Jews and the Mosaic Law" (1833); "Discourses, Argumentative and Devotional" (1836-'40); "Portuguese Form of Prayers" (1837); a "Descriptive Geography of Palestine;" and a translation of the Hebrew "Holy Scriptures" according to Jewish authorities (1856).

LEEUWARDEN, a town of Holland, capital of the province of Friesland, situated in a fertile plain on the Ee, 10 m. from the sea, and 70 m. N. E. from Amsterdam; pop. about 27,000. It is well built, intersected by numerous canals, and connected by others with Harlingen, Groningen, and Delfzyl. The principal buildings are the ancient palace of the princes of Orange, the government house, the old Landhuis, &c. It has a society for Frisian history, antiquities, and language, a natural history society, and also various manufactures.

LEEUWENHOECK, or LEUWENHOEK, ANTONIUS VAN, a Dutch naturalist, born in Delft, Oct. 24, 1632, died there, Aug. 26, 1723. He had no learned education, and in early life was engaged in mercantile pursuits. He applied himself during his spare moments to science, and attained the reputation of making the best microscopes in Europe. By his applications of the microscope, and by the researches in physiology to which these applications conducted him, he attracted the attention of the royal society of London; and the greater part of his writings, containing accounts of his discoveries, were published in the English "Philosophical Transactions." He made many remarkable investigations, and anticipated in his physiological dis-

coveries much which has been confirmed in modern times. His assertions with regard to the circulation of the blood, the nature of the brain and nerves, and the structure of the crystalline lens, agree very nearly with the results of modern experiment. His industry as well as his ingenuity was very great, but he formed many fanciful and erroneous theories, being often led astray by preconceived opinions. His investigation of the spermatric animalcules, which he claimed to have discovered in 1677, excited the curiosity of many naturalists, and they were afterward made the subject of much research and of many books by Buffon, Needham, Spallanzani, Prevost, Dumas, Wagner, and others. Leewenhoeck's life was passed in scientific research and in manufacturing optical instruments in his native city. He was visited by Queen Mary, and was invited to visit the czar Peter when that sovereign was in Delft. His writings were collected and published separately in Dutch at Delft and Leyden. They also appeared in Latin (Delft, 1695), and a selection of his works, containing his microscopical discoveries in many departments of nature, translated into English by Samuel Hoole, was published in London, 1798-1801.

LEEWARD. See LEE.

LEEWARD ISLANDS, a name applied to certain of the West India islands which, in sailing from Spain to Carthage or Porto Bello, lie to leeward, while a cluster to the S. of them are called Windward islands. The Leeward group comprises the British islands Dominica, Montserrat, Antigua, St. Christopher, Anguilla, and the Virgin group, the French islands Guadeloupe and Marie Galante, with the Danish and Swedish and most of the Dutch possessions in these waters.

LEFEBVRE, FRANÇOIS JOSEPH, a French marshal, born in Ruffach, Oct. 25, 1755, died in Paris, Sept. 14, 1820. He was the son of an Alsatian miller, enlisted in 1773 as a private soldier in the French army, was a sergeant at the commencement of the revolution, was rapidly promoted to the rank of general of division, and distinguished himself on many occasions by his bravery, especially at the battle of Fleurus (1794). On June 4, 1796, he led the van of Kléber's army in the attack on the Austrian position at Altenkirchen, and on March 20, 1799, at the battle of Stockach, maintained his ground for several hours with 8,000 men against a force of 36,000 Austrians. Having aided Bonaparte to overturn the directory, he was appointed to the command of the military in and around Paris, became a senator, and in 1804 was made a marshal of France. In 1806 he accompanied Napoleon against Prussia, and in the battle of Jena commanded the foot guards. He was next placed in command of the forces sent to reduce Dantzic, which surrendered May 24, 1807, after a siege of 51 days; and on the 28th he received the title of duke of Dantzic. He subsequently served in the Peninsula, was present in 1809 at the battles of Eckmühl and Wagram, and par-

ticipated in the Russian expedition as commander of the imperial brigade. On the downfall of the emperor, Louis XVIII. created him chevalier of St. Louis and a peer of France; but having retained his seat in the imperial senate during the Hundred Days, he was excluded on the second restoration from the chamber of peers. His rank was restored to him in 1819.

LE FORT, FRANÇOIS, a Russian general of Swiss origin, born in Geneva in 1656, died in Moscow, March 1, 1699. He early became a cadet of the Swiss guards in the French service, entered the army of Holland in 1674, and soon after went to Russia, where he received a captain's commission from the czar Alexis, and fought under Romadanoffski against the Turks and Tartars. After the death of Fedor III. in 1682, and the joint accession of the half brothers Ivan and Peter, he espoused the interests of the latter, took an active part in the movement which raised him to supreme authority in 1689, by removing his sister Sophia from the court, and at once became his chief minister. Peter intrusted to him the reorganization of the army after the European model, and appointed him general admiral, in which capacity he vigorously seconded the czar's efforts for the creation of a navy. In celebration of the first success of the new army and navy in the taking of Azof in 1696, a magnificent triumphal entry was prepared for the troops, in which Le Fort, borne on a chariot in the form of a marine shell, held the place of honor, the czar walking behind him. Le Fort also exercised great influence in ameliorating the laws of Russia, secured religious toleration for foreigners, and was either the originator or most efficient promoter of many of the grand improvements which distinguished the reign of Peter the Great.

LEGACY (Lat. *legatum*, from *legare*, to bequeath), a gift of any personal property by will. In Rome the general law determined uniformly who should succeed to the political, social, and personal rights of one who had died; but a member of the *populus* might get a special law passed by the *comitia curiata* authorizing an alteration of the usual rules for the distribution of property. A testament was, therefore, nothing else than a private law, and hence *legare*, from *lex*, came to be used as the appropriate word for making testamentary dispositions. The peculiar feature of the testament was the institution of an heir, that is, of a person who was to succeed to the *persona* of the testator. A legacy was an injunction to this heir to give or pay over to a third person a part of the inheritance. The word was never applied, as in the English law, to a direct bequest; and if there was no heir, the legacy necessarily failed. In our law, a legacy is a gift or bequest of goods or chattels by testament. The probate of a will or testament concerns only the personality; and as no testamentary disposition of such property can be administered without the interposition of a representative of the deceased, the court, if no executor was appointed by the will,

or if he who was appointed declines to accept the trust, will itself assume the nomination of an administrator. In him all the personal property is vested, and it is his office to estimate the assets and pay the debts of the deceased, and to divide the surplus, if any, according to his will, or according to the general statutes of distribution. A legatee acquires indeed, under the testament itself, an inchoate right to the legacy; but this is perfected only by the assent of the executor, or other representative of the testator.—Legacies are said in law to be general, specific, or demonstrative. The two former of these must be nicely distinguished from each other (though in fact it is not always easy to do so), because upon a deficiency of assets general legacies must abate for the payment of debts, while specific legacies are subject to abatement only when all other funds are insufficient; on the other hand, specific legacies are, from their nature, liable to ademption, while general legacies are not. A legacy is general when it does not bequeath a particular thing or part of the testator's personal estate by distinguishing it from all others of the same kind; thus, the gift of a horse or of a diamond ring, without indicating any particular horse or ring, is a general legacy. So bequests of money for a ring or to purchase government securities, or of an annuity to be purchased out of or charged to the personal estate, or of so much money to be paid in cash, have been construed to be general legacies. A legacy is specific when it refers by particular description to a certain chattel, and shows an intention that the legatee shall have the very thing, and not merely an equivalent value. For example, the gift of "my East India bonds," or of "a sum of money now in the hands of A," or of "the money due on B's note," is a specific legacy. In the construction of wills the presumption both at law and in equity is in favor of general legacies, but clear evidence of a testator's intention will support a specific gift. Demonstrative legacies partake in some respects of the qualities of both these just mentioned, and may be defined to be those which in their nature are general, but are to be satisfied, according to the will, out of a particular fund; thus, "1,000 dollars out of my bank stock." This kind of legacy possesses the better qualities of both the others. It is so far general that it is not adeemed by mere change in the fund out of which it is to be satisfied, and so far specific that it does not abate with general legacies for the payment of debts. It has already been mentioned that specific legacies may be adeemed; that is, if the subject of a specific legacy recited in the will be not in existence at the time of the testator's death, then the bequest entirely fails. Thus, if a debt specifically bequeathed be received or discharged by the testator, it will be adeemed, for there remains nothing for the will to operate upon. So the legacy of goods in a particular place is adeemed by their removal. But a specific gift is not adeemed by the testator's pledge of the subject of it, and the legatee will be

entitled to have it redeemed by the executor, and, if the latter fails to do so, to receive compensation out of the general assets. The plain rule in respect to ademption is to inquire whether the thing given existed *in specie* at the decease of the testator. This is the rule laid down by Lord Thurlow, who adds that any discussion of the particular motives and intentions of the testator is entirely foreign to the matter, as indeed it would only tend to produce uncertainty and confusion. This is certainly true when the subject of the gift has been destroyed by the testator's own act, though it would be otherwise perhaps if the character of the thing were changed by operation of law. A demonstrative legacy is not adeemed by a failure of the particular fund upon which it was charged. The value is the principal thing; the particular fund designated is only accessory and of secondary importance, and if it no longer exist, the bequest must be satisfied out of the general assets.—A legacy lapses if the legatee die before the testator, or, if after his death, yet before the contingency happened upon which the legacy was to vest. The general and well established rule of the common law is, that unless the legatee survive the testator, the legacy is extinguished. Statutes in many of our states have changed this rule, and extend the benefit of legacies frequently to the lineal descendants of legatees. The consequences of lapse may always be avoided by special provisions in the will; but not only must the testator express clearly his wish in this respect, but must also substitute in some way a person capable of taking instead of the deceased legatee. The second class of cases under the head of lapse comprises those in which the legatee dies after the testator. The general rule of the law is, that when a legacy is given without specifying any time for its payment, it is due on the death of the testator, although not payable until after one year. This year being intended only for the convenience and safety of the executor, it is not permitted to prevent the vesting of the legacy; and if the legatee die within the year, the bequest goes to his representatives. But if the testator have made any conditions of future payment, the courts examine into his intentions in order to determine whether the interest in the legacy be vested or contingent. In this respect, and concerning familiar cases, two very well settled rules are found in practice. First, if a legacy be "payable" or "to be paid" at any certain time, as "when the legatee arrives at the age of 21," it confers a vested interest immediately on the testator's death, and is transmissible to personal representatives. Secondly, if a gift of property be to the legatee "at 21" (and not merely payable at that age), or when, or if, any determinate thing shall happen, then the time becomes an essential element, and the legacy is contingent; if then the legatee die before the precedent condition be performed, the legacy lapses and fails entirely. With respect to the vesting of legacies charged

upon real estate, the general rule seems to be that when the gift is immediate, but the payment postponed, it is contingent, and will fail if the legatee die before the time of payment arrives; but when the payment is postponed merely in regard to the convenience and circumstances of the person and estate charged with the legacy, and not on account of the age, condition, or circumstances of the legatee, it will be vested, and must be paid although the legatee should die before the time of payment.—Finally, legacies may be lost not only by ademption and lapse, but also by abatement. In the administration of the estate by the executor, legacies must be applied to the payment of debts, if other property is insufficient. General legacies are to be applied before specific, the whole if all be needed, or *pro rata* if the aggregate thus obtained will suffice. But general legacies given for any valuable consideration, as for the relinquishment of dower by the widow, or for a debt actually due, will receive consideration and indulgence before all others. The same remark is true when it is the declared or evident intention of the testator to prefer one legatee to another. Specific legacies suffer abatement only after complete exhaustion of general and residuary legacies. In England, those to whom specific and demonstrative legacies are given can compel the devisees of land not charged to contribute with them *pro rata* toward the payment of debts. This rule is not admitted in the United States, though general residuary devisees of land have been charged in the marshalling of assets for contribution to payment of debts before specific legatees.—On the testator's death the entire personal property vests in the executor, who holds it in trust for the payment of debts and other claims. No legacy can be received by the legatee without the assent of the personal representative, though if he withholds this improperly he may be compelled in a court of equity to give it. Probably, under the usual statutes in force in this country, this assent cannot be given until the receipt of letters testamentary from a probate court or other competent jurisdiction in the premises. Statutes generally direct that legacies shall not be paid until a year has elapsed from the time of issuing the letters of administration. If however the will directs the bequest to be paid earlier, the administrator must comply, and may take for his security a bond of indemnification in case of failure of assets. Legacies are then payable at the end of a year. From this time therefore interest is in general to be computed, if at all; but that will depend upon the general rules of law, founded upon the intention of the testator and the equity of the case. Thus, if the legacy be the only provision for the support of a child, interest will be allowed upon it from the death of the testator, and not merely from the expiration of a year after it. So, when a legacy is given to a widow in lieu of her dower, or is given in satisfaction of a debt, or is charged on real property, and no time is fixed

for the payment, interest will be allowed. Payment must be made to the party who is entitled to receive it, and such a one may recover his legacy from the executor though he have even honestly paid it already to the wrong person.—At common law a father is not entitled to receive testamentary gifts bequeathed to his children. In New York and some other states this matter is made the subject of legislative provisions. Legacies less in amount than \$50 may be paid to the father, and his receipt will protect the executor. If the amount be greater than \$50, the executor must pay to the child's general guardian, or, if there is none, must invest the legacy in permanent funds, under the direction of the surrogate, for the infant's benefit. At common law a bequest to a married woman must be paid to the husband. This may be changed by statutes, as it is by many late married woman's acts, under which wives may take, not only by bequest, but also by devise and gift, and hold the property so received to their sole and separate use.

LEGARÉ, HUGH SWINTON, an American statesman and man of letters, born in Charleston, S. C., Jan. 2, 1797, died in Boston, June 20, 1848. On the father's side he was of French Huguenot stock; on the mother's Scottish. Inoculated with small pox when a child, according to the medical practice of that day, the disease fastened on his lower limbs, showing itself in imposthumes, which finally impaired the growth and integrity of the joints and tendons, and crippled for a time the development in those parts. His physical infirmities, which kept his childhood weak, were probably favorable to the development of his intellect. Books were his only refuge. His early education, as soon as he became sufficiently strong, was conducted in Charleston, at first under the care of Mr. Ward, an English teacher; and at the age of 9 he was confided to the care of the Rev. Dr. Gallaher, a Catholic priest, of great reputation in that day and place as a classical scholar and teacher. He was transferred from the school of Dr. Gallaher at about the age of 11 or 12 to the college of Charleston, where he remained but a short time, and probably learned little. We find him next at the school of Dr. Moses Waddell, in Abbeville district, a classical teacher of high rank and a rigid disciplinarian. He entered the South Carolina college at the age of 14. Here he devoted himself mainly to classical literature and philosophy, and practised in the debating societies with passionate eagerness. To the exact sciences he did not much incline, but his college term of 4 years was one of incessant toil and exercise, though the results do not seem to have satisfied himself. "I learned nothing at college," he said on one occasion. "It was by the midnight lamp in solitary studies, after I had left college, that I acquired all that I know, first recovering what I had lost." Moderately acquainted with Latin and Greek, Legaré had revelled in poetry, philosophy, and history; and these provinces he

continued to explore, as more than any other calculated to conduct him to eloquence. This was his earliest ideal. And these studies led him to the modern languages, the French, Spanish, Italian, Portuguese, German, Dutch, and even the Romaic and Provençal; all of which he acquired, more or less thoroughly, in the course of a few years. Nor in these studies did he neglect the classics. Greek and Latin, indeed, were arbitrarily enforced in his severe self-discipline, as paramount objects; and the modern languages, however diligently urged, were kept, as it were, tributary to the superior claims of the former. His studies in the classics, however, were pursued with reference to their literature, rather than in the desire to master mere philological niceties. His acquaintance with Greek literature, in which he exercised himself daily, was scarcely equalled in this country. He was very familiar with the Latin, but did not regard its literature with any peculiar admiration, except the orators. He spoke and wrote in French as freely as in English. From the writings of Dante down to the period of Alfieri he was familiar with Italian letters, and could appreciate the music and the arts of Italy as an exponent of its genius, equally rich and pure with its tongue. Roman jurisprudence was also a favorite study. In English literature, he read particularly the old masters; Milton's prose and verse were his especial favorites. Of German he afterward acquired a thorough knowledge. The physical obstacles to his becoming an orator were far from inconsiderable. He practised gesticulation, in correspondence with voice, in order to overcome whatever embarrassments of action and manner might arise from his imperfections of person, and with the further view to grace, propriety, and impressiveness. His habit was to declaim in solitude by the sea shore, in the forest, in hollow vaults, and great halls, in various attitudes, climbing hills while he spoke, and sometimes prostrate upon the earth. He acquired, through this training, the happiest mastery over his voice; it became true and flexible, and, under his perfect command, was capable of the most delicate variations. He was graduated at the South Carolina college in Dec. 1814, with its highest honors, and returned to Charleston. The law had been already decided upon as his profession, and for 8 years he devoted himself to a course of legal study. In 1818 he embarked from Charleston for France. Thence he proceeded to Edinburgh, and entered the classes of civil law, natural philosophy, mathematics, and chemistry, over which presided Irving, Playfair, Leslie, and Dr. Murray. But his chief study here was the civil law, giving 3 hours a day to the lectures and 8 or 10 to Heineccius, Cujas, and Terrasson. Finishing his winter course in Edinburgh, he proceeded to London, where he passed a portion of the summer; returned again to France, and occupied the autumn in seeing that country, Belgium, Holland, the Rhine, and the Alps. Disturbances in Germany, with probably some diminution of his

resources, defeated his plan of going to Göttingen, or seeing any part of Germany at this period. He returned to Charleston after an absence of two years. At home, a large portion of his time was now devoted to retrieving the plantation affairs of his widowed mother, which needed active and vigilant supervision. He thus became for two years a cotton planter on John's island, but not to the neglect of his legal studies. Meanwhile, he was elected to the lower house of the general assembly of South Carolina for its biennial term from 1820 to 1822. Here he proved equally his working talent and his eloquence. In 1822 he removed to Charleston, and engaged for the first time in the active duties of his profession. But the very reputation which he had already won as a man of letters was a barrier to his success as a practitioner. He got little practice, except that which was thrown into his hands by such men as Petigru, Mitchell, King, and others, the leaders of the Charleston bar, and he had the mortification of feeling that he made no progress in the one profession to which, over all, he had dedicated his life. In 1824 he was chosen from the city a representative in the legislature of the state, and thus continued until 1830, when he was elected the attorney-general. Here began a perilous period in the domestic history of the state, and one which threatened the confederacy. It was the opening of the great question of nullification. Mr. Legaré resisted the doctrine, and, though from his habits not prepared to lead, was yet an active, eloquent, and ready speaker on the side of the union party. Pending this conflict, and at a period when no one anticipated its result, the "Southern Review," a quarterly magazine, was established, ostensibly under the supervision of Stephen Elliott. Legaré was his coadjutor, and the writer upon whom he mostly relied. He wrote the initial article of the first number, on "Classical Literature," and continued to write in each successive number one, two, three, and sometimes more articles, on some of his favorite subjects. On certain occasions, when the usual contributors failed, he has been known to furnish one half of the contents of the "Review." It was suspended after the 8th volume, Legaré having been the editor after the death of Elliott. Meanwhile, Legaré maintained his position as attorney-general, with a degree of successful ability that somewhat surprised those who had thought lightly of his legal endowments and attainments. A case which carried him before the supreme court at Washington enabled him to exhibit some portion of his vast resources, and his argument was considered an extraordinary success. Mr. Livingston, secretary of state, and at that time one of the greatest of our civilians, bestowed upon him the most flattering compliments and attentions, and in 1832 tendered him the office of chargé d'affaires at Brussels. This appointment was accepted; and now, with every facility for acquisition, Legaré devoted himself to letters once more, perfecting his knowledge of German, Low

Dutch, Romaio, &c., and dedicating himself anew to ancient jurisprudence, the Roman and civil and international law. Nor was he neglectful of statesmanship. His correspondence and public despatches are sufficient proof not only of his perfect adequacy to his situation and his vigilance, but of his deeper insight into the principles which govern or should govern states and communities, than is commonly the case even with the diplomatic veteran. He was invited home by friends, who desired the re-establishment of the "Southern Review," and wished him to take charge of it; but he declined the invitation. The state of South Carolina would have placed him at the head of her college; so, too, would the state of Kentucky. He declined all such overtures. In the autumn of 1836 he made a tour among the seats of learning in northern Germany, and then returned home. In his published remains, the "Diary of Brussels" &c., will afford some idea equally of his travels, studies, and experiences. Almost immediately after his arrival at Charleston, he was elected to the lower house in congress, taking his seat in the extra session of 1836, called to deliberate on the financial embarrassments of the country. In the debates which followed he greatly increased his reputation by his brilliancy, his wide grasp of the subject, and the logical fitness and force of his arguments. But his course in relation to the sub-treasury project did not please his constituency, and he was thrown out at the next election. This defeat forced him back upon his profession, to which he now addressed himself with more determined purpose than ever. He was soon employed in some cases of singular magnitude, then pending in the courts of South Carolina. In the case of "Pell and Wife vs. the Executors of Ball," he achieved a great triumph, at once of argument and eloquence, which was everywhere acknowledged. The reputation of a great lawyer, however slowly acquired, in his native city, could no longer be denied him. In the presidential canvass of 1840 he again took part in politics in favor of Gen. Harrison. About this time, also, he began a series of brilliant papers in the "New York Review" on "Demosthenes," "The Athenian Democracy," "The Origin, History, and Influence of the Roman Law," &c. While thus engaged, he was appointed by President Tyler attorney-general of the United States. Mr. W. O. Preston, his eulogist, speaking of him during his term of office, remarks: "His practice as attorney-general was attended with the most conspicuous success. Many of the judges expressed their great admiration of his efforts during the first term, and the whole bench awarded to him the palm of exalted merit. His official opinions, delivered on questions arising in the administration of government, were formed with laborious deliberation, clearly and ably argued, and have been sustained without exception. On the very important question whether, upon the expiration of the compromise act, there was any law for the fur-

ther collection of revenue, he differed from a great majority of the bar, and from most of the leading politicians in congress, of both parties—it is supposed, too, from a majority of the cabinet; but his opinion has been ascertained to be correct." His office gave him ample employment, and sufficiently tasked his vast legal resources, but always to the increase of his reputation. He gave important aid in the conduct of the Ashburton treaty, and the president confided to him the care of the state department when vacated by the withdrawal of Mr. Webster. While thus employed he lost his brother and one of his sisters; and these events greatly saddened a mind naturally grave and earnest, and peculiarly susceptible to serious impressions. He had, a year previous, suffered severely from an attack of visceral derangement. A second attack of the same malady proved fatal. Accompanying the president to Boston, in June, 1843, in order to take part in the Bunker hill celebration of that year, he was seized so severely on the 16th that he was unable to join in the ceremonies of the next day. He was removed to the residence of his friend Mr. Ticknor, where he died. His remains, temporarily deposited in a vault at the Mt. Auburn cemetery, were in 1859 brought home by his friends and admirers to Charleston, and interred at Magnolia cemetery, where a handsome monument has been raised to his memory by voluntary contributions. He was never married. A biography, with selections from his writings, including reviews, orations, public despatches, and the "Diary of Brussels," was published at Charleston in 1846, in 2 vols. 8vo.

LEGARÉ (BULLEN), MARY SWINTON, an American artist, sister of the preceding, born in Charleston, S. C., about 1800. Among her best works are a "Spanish Painter," nearly of life size, and the "Dogs of St. Bernard." In 1849 she emigrated to Lee co., Iowa, and established at West Point an institution called "Legaré college" for the liberal education of women, to the support of which she for many years devoted her time and means.

LEGATE (Lat. *legatus*, from *lego*, to charge, to depute), in ancient Rome, the title of various officers of high rank. It designated the chief assistants of proconsuls or other governors of provinces, the military officers next in rank to the commander-in-chief, and under the empire the administrators of provinces the government of which was specially reserved to the emperors; these were called *legati Caesaris*. The term is now used to designate a papal ambassador or deputy of the highest rank, those of lower rank, or *legati missi*, being generally called apostolic nuncios. Legates *a latere* are sent by the papal see on important missions to great foreign courts, or as governors of the chief pontifical provinces, which are hence called legations (It. *legazioni*), those not governed by cardinals being called delegations (*delegazioni*). Legates *nati* or *ex officio* hold their titular dignity as incident and annexed to offices of high rank depending

upon papal appointment. Formerly this title exempted its possessors from the authority of the legates *a latere*, and was borne by the archbishops of Canterbury.

LEGENDRE, ADRIEN MARIE, a French mathematician, born at Toulouse in 1752, died in Paris, Jan. 10, 1833. He evinced an early taste for mathematics, and through the influence of D'Alembert was appointed in 1774 to a chair in the military school at Paris. In 1782 he gained prizes for two remarkable papers from the academies of science at Paris and Berlin. In 1783 he succeeded D'Alembert at the French academy, and in 1787 was appointed by the government, with Cassini and Mechain, to connect the observatories of Greenwich and Paris by a series of triangles. He presented in 1791 a report of their joint labors, with a description of a new instrument which he had invented and successfully used for measuring angles. In 1794 he published his *Éléments de géométrie*, upon which his popularity principally rests. It has been several times printed in English, the best translation being that of Sir David Brewster. The same year he published a *Mémoire sur les transcendentes elliptiques*. Upon the organization of the French institute in 1795, he was appointed one of its members. In 1798 appeared his *Essai sur les nombres*, reprinted with additions in 1830, under the title of *Théorie des nombres* (2 vols. 8vo.), and in 1805 a *Nouvelle méthode pour déterminer l'orbite des comètes*. These were followed by his *Exercices de calcul intégral sur divers ordres de transcendentes et sur les quadratures* (3 vols. 4to., 1807-'19), in which he attempted to collect all that is most remarkable in the theory of transcendental and integrals. This subject was enlarged, completed, and reduced to a more digested system in his *Traité des fonctions elliptiques et des intégrales Eulériennes, avec des tables pour en faciliter le calcul numérique* (3 vols. 4to., Paris, 1827-'32). Legendre was appointed in 1808 councillor for life of the university, and in 1816 examiner of candidates for the polytechnic school.

LEGGETT, WILLIAM, an American author and journalist, born in New York in 1802, died May 29, 1839. He was educated at the college in Georgetown, D. C., and in 1819 accompanied his father to Illinois. In 1822 he entered the navy as midshipman, but resigned his warrant in 1826. He had in the previous year published a volume of poems, entitled "Leisure Hours at Sea, by a Midshipman of the U. S. Navy" (18mo., New York). In 1828 he became editor of the "Critic," a weekly literary journal, which was soon united with the "New York Mirror." He subsequently collected in a volume some of his contributions to these and other publications, under the title of "Tales by a Country Schoolmaster," followed by one entitled "Sketches at Sea." In the summer of 1829 he became one of the editors of the New York "Evening Post," to which journal he was attached until Dec. 1836. At the outset he stipulated with his principal, Mr. William C. Bryant,

that he should not be required to write on political subjects, as he had no taste for or fixed opinions upon them; but before a year had passed he appeared to have found his true vocation in discussing them. Having retired from the "Post," he commenced a weekly journal called the "Plaindealer," which attained a large circulation, but was discontinued in less than a year through the failure of its publisher; after which Mr. Leggett, his health being greatly enfeebled, ceased literary labor, and lived in retirement at New Rochelle. In May, 1839, he was appointed by President Van Buren diplomatic agent to Guatemala, but died suddenly while preparing for his departure. Soon after his death a collection of his "Political Writings," with a memoir, was published by his friend Theodore Sedgwick (2 vols. 12mo., New York, 1840). Mr. Leggett was remarkable among the journalists of his day as an unflinching advocate of freedom of opinion for his political opponents as well as for the men of his own party. Mr. Bryant, who has written a poem in his memory, describes him as a person fond of study, one delighting to trace principles to their remotest consequences, and greatly gifted with moral courage, having no fear of public opinion as regarded the expression of his own convictions.

LEGH, THOMAS, an English traveller and author, born at Lymepark in 1792, died in May, 1857. In 1812, with a view of exploring the monumental antiquities of Greece and Egypt, he visited the islands of the archipelago, and thence sailed for Egypt. He ascended the Nile with the determination of penetrating into Nubia, and with a single companion reached Ibrim in that country. Here the absence of objects of antiquarian interest, and the hostility of the Mamelukes, who had been incensed by the cruelties and oppressions of Mehemet Ali, brought the expedition to a termination, and after some romantic and hazardous adventures the travellers found their way back to Cairo. In 1816 appeared Mr. Legh's "Narrative of a Journey in Egypt and the Country beyond the Cataracts" (4to., London), a work containing within a comparatively small compass much information, new at the time of its publication, particularly with respect to the ancient Ethiopian monuments.

LEGHORN (It. *Livorno*), a maritime city of Tuscany, on the W. coast of Italy, in lat. 43° 38' N., long. 10° 19' E., 9½ m. by railway S. by W. from Pisa and 54 m. W. by S. from Florence; pop. about 80,000, including nearly 8,000 Jews, also Greeks and Armenians, Turks, Moors, Germans, English, &c. It gives its name to a department, which includes the island of Gorgona; area, 38 sq. m.; pop. in 1858, 91,741. The town is of comparatively modern origin, and possesses few remarkable buildings or objects of art. The cathedral is interesting in consequence of the façade having been designed by Inigo Jones. There are 6 parish churches, and places of worship for members of the church of England, Scotch Presbyterians, Greeks, and Armenians. The Jews have a richly ornamented synagogue.

The palazzo Lardarel, lately built by the count of that name, contains a gallery of pictures and statues. There is another palace, formerly the residence of the grand dukes of Tuscany. In the *piazza delle Due Principi*, a large new square, is a statue of the grand duke Ferdinand III., and near the quay is one dedicated to Ferdinand I. There are 3 hospitals, 2 *monti di pietà* (public pawn offices), a free library, an observatory, and a citadel. The English cemetery contains the tombs of Smollett and Francis Horner. The monastery of Monte Nero is upon a hill near the town. The 8 lazarettos of San Rocco, San Jacopo, and San Leopoldo, the first for those who arrive with a clean bill of health (*patente netta*), the 2d for those with a doubtful (*tocca*), and the 3d for vessels with a foul bill (*patente brutta*), are well managed establishments. The town possesses various educational, scientific, and charitable institutions. Many of the private houses are elegant, and the vicinity is covered with villas of the wealthy citizens. The town has been greatly enlarged of late years by throwing down many of the old fortifications and including two large suburbs within the walls. It resembles an English town more than any other in Italy, and its commercial and manufacturing importance is constantly increasing. As a Mediterranean seaport it ranks after Marseilles, Genoa, Trieste, and Smyrna. The accommodation for shipping having become insufficient for large vessels, which are obliged to discharge their cargoes in the roads, the government has undertaken the enlargement of the port. Being a free port, Leghorn is perhaps better supplied with French and English manufactures than any other town on the continent. The average annual imports and exports amount in the aggregate to \$30,000,000, and 10,000 vessels annually enter and leave the port. From 1850 to 1860 about 30 vessels have been annually built in Leghorn. The chief manufactures are corals, silk, wool, cotton, straw and felt hats, alabaster, porcelain, pottery, leather, tobacco, &c. There are salt works and many dyeing establishments, and admirably organized distilleries of oil and *rosoglio* (a kind of liqueur). In the year ending Sept. 30, 1858, 30 American vessels entered and cleared the port of Leghorn, with cargoes valued at \$500,000. There are over 80 foreign consuls resident there, and the great concourse of sailors and strangers of all nations imparts to the town a very interesting and animated appearance. The natural insalubrity of the site has been remedied by effective draining. Good water is brought to the town by means of a fine aqueduct, which was erected in 1792. In the summer season Leghorn is a favorite resort of the fashionable world of Florence, Rome, Bologna, Sienna, and other cities, the influx of visitors frequently amounting to 20,000 persons. —Leghorn is first mentioned as a village in the 11th century, but became important only after the destruction of the port of Pisa, and particularly in the 15th and 16th centuries under the rule of the Medici. The grand duke Cosmo I.

made it a free port and granted many privileges to the town, which continued to improve under his successor Ferdinand I. In 1808 Napoleon annexed it to his empire, and it became the capital of the French department of the Mediterranean. It was taken by the Austrians under Gen. Aspre in 1849, and for a long time subsequently was occupied by an Austrian garrison. In March, 1860, it was annexed with the whole of Tuscany to Sardinia.

LEHIGH, an E. co. of Penn., lying chiefly in the Kittatinny valley, bounded N. W. by Blue mountain and S. E. by South mountain, and drained by Lehigh river; area, 389 sq. m.; pop. in 1850, 32,479. It abounds in iron ore, limestone, and clay slate, and has an undulating surface and a fertile soil. The productions in 1850 were 397,048 bushels of Indian corn, 261,301 of wheat, 327,505 of rye, 289,669 of oats, 30,333 tons of hay, 838,816 lbs. of butter, and 21,920 of wool. There were 67 grist mills, 17 saw mills, 9 iron mines, 28 tanneries, 6 newspaper offices, 39 churches, and 7,888 pupils attending public schools. Capital, Allentown.

LEHIGH, a river of Penn., rising near Wilkesbarre, Luzerne co., toward the N. E. part of the state, and uniting with the Delaware at Easton after a S. S. E. course of about 90 m. In its upper course it is a rapid and picturesque mountain stream, broken by several falls. It passes through a rich coal region, for the products of which it serves as an outlet, having been rendered navigable by a series of extensive improvements as far as Whitehaven, 84 m. from its mouth. It breaks through the Blue Ridge 12 m. below Mauch Chunk.

LEIBNITZ, GOTTFRIED WILHELM, a German philosopher, born in Leipsic, July 3, 1646, died in Hanover, Nov. 14, 1716. His father, a professor in the university, died when he was 6 years old. He enjoyed by the care of his mother the best privileges of education which Germany then afforded, but declares that he was for the most part self-taught, and relates that he would withdraw from school to shut himself up whole days in his father's library. At the Nicolai gymnasium in Leipsic he incurred the remonstrances of his masters by learning Latin and reading the classics in advance of the regular course. Before he was 12, he says, he "understood the Latin authors very well, had begun to lisp Greek, and wrote verses with singular success." He was already studying the greatest modern as well as ancient philosophers, was comparing Bacon and Descartes with Aristotle and Plato, and his encyclopædic mind was aiming to grasp the unity of all the sciences. At the age of 15 he entered the university of Leipsic, applied himself chiefly to mathematics, philosophy, and law, continued his studies for a short time at Jena, returned to Leipsic, and produced remarkable theses on occasion of receiving his degrees. His treatise *De Principio Individui*, his academic exercise on becoming bachelor of philosophy, is perhaps the most extraordinary demonstration of erudition and power of thought

ever achieved by a youth of 17. It was the fruit of severe boyish deliberation whether or not he should give up the substantial forms of the schoolmen, prefigured his future philosophy by its vivid statement of individuality as the fundamental principle of ontology, and was the last noticeable work written in the sense and style of scholasticism. In it he declares for nominalism. His 3 theses on becoming bachelor and licentiate of law were published, and he wished to crown his studies in jurisprudence with the degree of doctor; but this was refused him on pretence of his youth by the superiors of the college, whose ill will he had in some way incurred. He therefore left his native city, never to return. At the university of Altdorf he maintained his thesis for the doctorate with so brilliant success (1666) that a professorship was immediately offered him, which he declined. He fell in with a society of Rosicrucians and alchemists at Nuremberg, became their secretary, recorded their experiments, and explored the hermetic authors for revelations concerning the philosopher's stone, but was soon ready for more hopeful labors. In 1667 he met the baron of Boyneburg, ex-chancellor of the elector of Mentz, who was captivated by his genius, and invited him to Frankfort, where he immediately composed his *Nova Methodus Docenda Docendæque Jurisprudentiæ* (1667), in which he shows his admiration of the Roman law and proposes the registry of all its enactments in chronological order. In the following year appeared his *Corporis Juris Reconcinnandi Ratio*, in which the arrangement of Justinian is disapproved, and all law is reduced to 9 heads: general principles of rights and actions, rights of persons, judgments, real rights, contracts, successions, crimes, public rights, and sacred rights. In the treatment of these departments he proposes to retain the texts of the *Corpus Juris Civilis*, but to follow the method of the Pandects rather than of the Institutes. The versatile genius and various pursuits of Leibnitz soon withdrew him from the science of philosophical jurisprudence. "He did but pass over that kingdom," says Lermnier, "and he reformed and enlarged it." In 1669 he produced, at the instance of Boyneburg, an anonymous treatise in favor of the claims of the prince of Neuburg to the vacant throne of Poland, in reward for which he was made councillor of the elector of Mentz. This office, which he retained 3 years, furnished him leisure to prosecute vast studies in politics, physics, and philosophy. He meditated a new and more comprehensive edition of the cyclopædia of Alsted, a favorite project, which he never executed; extended his fame as a philosopher by republishing and annotating the *Antibarbarus Philosophus* of Nizolius (1670), in which he ranks Aristotle above Descartes; wrote a theological argument in defence of the Trinity, *Sacrosancta Trinitas* (1671), aimed against the Polish Socinian Wissowatius, who had procured the erection of a temple to the harmony of the 3 Chris-

tian confessions; addressed to the academy of sciences of Paris and to the royal society of London two remarkable memoirs on the laws of motion; and entered into correspondence with Spinoza by sending him an account of the progress of optics. One of his projects at this time was for a reunion of the Lutheran and Roman Catholic churches, concerning which he had a long correspondence with Bossuet. In 1672 he was sent by Boyneburg to accompany his son to Paris, then the residence of the most learned men of the age under the patronage of Louis XIV. Associated with Cassini, Huyghens, and others, he devoted himself especially to mathematics and physics, and established a European reputation by bold and striking thoughts in all departments of learning. To Colbert he presented a new arithmetical machine, an improvement on that of Pascal, which was favorably noticed by the academy of sciences. To the French monarch he addressed a memorial for an expedition to Egypt, an eminent instance of political foresight. "The conquest of Egypt," he says, "will give supremacy on the sea, the commerce with India, predominance in Christendom, and even an empire in the Orient on the ruins of the Ottoman power." The political importance destined to Egypt by its geographical position, thus discerned by a philosopher, has been equally appreciated by the two greatest conquerors of ancient and modern times, Alexander the Great and Napoleon. Another of his suggestions to Louis XIV. was for the publication of a general repertory of human knowledge in the form of a dictionary, thus presenting all the results of scientific labor in their mutual dependencies. He proposed illustrated treatises on natural history, and states that his own preference would have been to study the laws established by God in nature rather than the laws and customs created by men for themselves. An offer of admission as a pensioner into the academy of sciences was made to him, and was declined on account of the condition that he should become a Catholic. In 1673 he visited England, became personally acquainted with Newton, Boyle, Oldenburg, Wallis, and Collins, and was elected a member of the royal society. The death of Boyneburg, soon followed by that of the elector of Mentz (1674), left him without a patron, and he determined to return to Germany. At Paris he received from the duke of Brunswick-Lüneburg an appointment as councillor, with a pension and with permission to prolong his absence at pleasure. He remained in France till 1676, again visited London, passed through Holland, met with Spinoza at the Hague, and on his arrival in Hanover, the residence of the duke of Brunswick, became his librarian, and was partially occupied for 6 years in arranging and enriching his library. At the congress of Nimeguen (1677) there was a dispute about the right of precedence between the princes who were electors and those who were not. Leibnitz maintained the cause of the latter in a treatise containing

the ultramontane rather than Protestant declaration that all the states of Christendom should form but a single body, having the pope for their spiritual and the emperor for their temporal head. This idea of a grand theocracy appears prominently in several of his writings, alike in his views of society and of nature. Theology he defined as the jurisprudence of the kingdom of God, as law and politics transferred to a higher and absolute sphere. He was one of the founders in 1682 of the *Acta Eruditorum* of Leipsic, to which he furnished numerous articles. Employed to write the history of the house of Brunswick, he explored the principal libraries and archives of Germany and Italy for materials, returning to Hanover in 1690. The fruits of his researches were the *Codex Juris Gentium Diplomaticus* (2 vols., 1693-1700), a collection of treaties and public documents, with a preface which is one of his masterpieces; *Scriptores Rerum Brunsvicensium Illustrationi Inscriventes* (3 vols., 1707-'11); *Accessiones Historicae* (2 vols., 1698-1700); and the *Annales Imperii Occidentis Brunsvicensis* (first published by Pertz, 2 vols., 1843-'5). His *Protogæa* (first published entire in 1749), a dissertation on the state of the globe before the creation of man, was intended as an introduction to the last work, and was the first important contribution to the science of geology, which he called natural geography. His hypothesis supposes the prominence of fire in the formation of the earth, the gradual congelation after igneous fusion, the introduction of a vast body of water to cover the surface, and the origin of mountains and valleys by the subsidence of certain portions of the earth breaking in upon vast vaulted caverns. He also explains fossils, which had previously been esteemed freaks of nature, as remnants of real but extinct species. Through his influence the academy of sciences of Berlin was founded in 1701, of which he was the first president. His first memoir was on a species of binary arithmetic, invented by him, in which the only figures employed were 0 and 1. He soon after attempted to form a universal alphabet, the elements of which were to be very simple, like algebraic signs, instead of syllables and words, and were directly to represent ideas. This favorite but futile scheme was the subject of long continued meditations. To Frederic Augustus, king of Poland and elector of Saxony, he addressed a series of precepts for the advancement of sciences, with a curious preamble. After noticing the confusion of investigations and theories and the animosity of scholars in his time, he adds: "I fear that after the curiosity of men shall be exhausted with no considerable profit to their happiness, they will become disgusted with the sciences, and by a fatal despair fall back into barbarism, to which this horrible and daily increasing mass of books may much contribute. For the disorder will finally be almost insurmountable; the multitude of writers will expose them all to the danger of general oblivion; and to be an author

will perhaps become as disgraceful as it once was honorable; or rather, people will amuse themselves with little ephemeral books, which may have currency for a few years and divert the reader a few moments from *ennui*, without any design of advancing knowledge or benefiting posterity." To this period belong his most important philosophical labors. In 1704 he composed his examination of Locke, *Nouveaux essais sur l'entendement humain*; he revealed the great variety of his learning in the first volume of the *Miscellanea Berolinensia* (1710); was a frequent contributor to the *Journal de Trévoux* and the *Journal des sçavants*; and published in 1710 in French his *Théodicée*, the noblest monument of his genius, in which he grapples with the leading problems of philosophy and faith, and which is hardly surpassed as an example at once of metaphysical power and universal erudition. During the latter years of his life he enjoyed the highest personal distinction. A councillor and official historiographer at Hanover, a baron and aulic councillor with a pension at Vienna, he was consulted by Peter the Great at Torgau in 1711, and rewarded by him with the title of councillor of state and a pension of 1,000 rubles. He had for many years corresponded with the most illustrious persons in Europe on almost all public and scientific questions. He united the leading thinkers of Christendom by an interchange of ideas, and from his time the history of philosophy involves more than in any former period the general history of the human mind. To no single person is the civilized world more indebted for the literary commerce between all its parts. The rich materials scattered through his letters prove that his amusements must have consisted only in change of objects, not in suspension of intellectual labor. To Spinoza he wrote, suggesting new methods of manufacturing lenses; to Magliabecchi at Florence, urging him in elegant Latin verses to publish his bibliographical discoveries; to the elector of Saxony, on the culture of the silkworm; to Grimaldi, the Jesuit missionary in China, to impart his researches in Chinese philosophy, and to prevail on the emperor to introduce his new binary arithmetic, suggesting that the latter may even be a key to the book *Ye-kin*, supposed to contain the mysteries of Fo; to Bossuet and Mme. Brinon concerning the union of the Protestant and Catholic churches, and to Von Spanheim on the union of the Lutheran and Reformed; to Père Des Bosses on transubstantiation, and to Dr. Samuel Clarke on time and space; to Remond de Montmort on Plato, and to Franke on popular education; to the queen of Prussia, his pupil, on free will and predestination; to the electress Sophia, her mother, on English politics; and to the cabinet of Peter the Great on the Slavic and oriental languages. A controversy with Newton concerning the discovery of the differential calculus embittered the latter years of his life. There is little doubt that Newton's method of fluxions and Leibnitz's

method of infinitesimals, which differ only in the mode of notation, were both independent and original discoveries. But the priority of publication belongs to Leibnitz, who gave a summary of the principles of the differential calculus in the *Acta Eruditorum* in 1684. Sir David Brewster's account of this matter, in his "Life of Newton," is, according to the German authorities Gerhart and Guhrauer, very incomplete, ignoring some important documents, particularly a letter of Leibnitz to Oldenburg dated Aug. 27, 1676. The royal society of London appointed a commission to examine the question, whose report, *Commercium Epistolicum* (1712), was in favor of Newton. This is admitted not to have been impartial, and its deficiencies are shown in a revised edition by Biot and Lefort (1856).—The principal metaphysical speculations of Leibnitz are contained in his *Théodicée*, *Nouveaux essais*, *Système nouveau de la nature* (1695), *De Ipsa Natura* (1698), the fragment on *Monadologie* (1714), and in portions of his correspondence. He was too much occupied with all the learning of Europe to give a complete and systematic development of his opinions either in this or any other department. His mind was nurtured in the controversy between the principles of Descartes and Locke, the ultimate tendencies of each of which he was able to perceive, and between which he wished to establish a position. He controverted Locke's rejection of innate ideas, by maintaining that, though no ideas be innate, there is yet an innate faculty for forming ideas independent of and superior to sensation. To the old axiom of sensualism, *Nihil est in intellectu, quod non fuerit prius in sensu*, he made the revolutionary addition, *nisi ipse intellectus*. The mind he compares not to a *tabula rasa*, a blank tablet, but to a block of marble that has certain characteristic veins in it; affirms it to contain potentially in itself the general notions of things, which are unfolded as occasions invite, the germs of our ideas and of the eternal truths which are derived from them. Those necessary truths, which take their origin not from experience, but primarily from the thinking soul, are the elements of all knowledge. Thus, unlike that of Locke, the starting point of his philosophy is not the products of sensation, but the laws of the understanding; and he creates not a system of empiricism, but a system of rationalism. He departs almost equally from the results of Cartesianism as developed by Malebranche and Spinoza. In Descartes the prominence of the idea of the infinite or absolute tends to cast finite nature into the shade. This tendency appears more decidedly in Malebranche, who denied second causes, and limited all real agency to the Supreme Being, and in Spinoza, who affirmed all thought and substance to be alike parts and modifications of the one sole Existence. Thus the idea of cause was banished from the universe of created things, and all phenomena were regarded only as modes of the divine action. To avoid this result, to vindicate the no-

tion of causality, was the object which Leibnitz had in view in declaring all matter to be necessarily active. He affirmed that one body cannot receive the power of acting from any other, but that the whole force is preëxistent in itself. He thus substituted in the study of nature the notion of force for that of mode, the form of dynamics for the form of abstract geometry. This principle is the key to his peculiar system. He begins with maintaining that the pure *à priori* conceptions of the reason are full and adequate expressions of objective realities. Logical truth is equivalent to actual truth; rational possibility is necessarily reality; ideas are identical with things. He introduces the two test principles of contradiction and sufficient reason, the former applying to the realm of necessary ideas, the latter to that of contingent facts. Whatsoever abstract conception involves no contradiction with the reason itself is absolutely true. But to determine what ideas are valid in any world of contingent phenomena, in any particular circumstances, there is needed the second principle. For every actual truth a sufficient reason must be rendered, showing that it is that which is best adapted to bring about the intended result. Thus every thing must be judged by its final cause. The Cartesian doctrine, that substance consists essentially in extension, does not explain the constant movements and developments of nature. Unless, therefore, every phenomenon be regarded as a direct product of the divine mind, Leibnitz maintains that some inherent, causative, initiative power must be attributed to matter. This power cannot reside in masses as such, since they are infinitely divisible, and may therefore be reduced to a zero of extension, till they lose every material property. Hence his doctrine of monads, as the simple active elements of things, the veritable, living atoms of nature, the immaterial, indivisible, and final forces of the universe, uninfluenced from without, but continually changing by an inward principle. All monads contain an inward energy by virtue of which they develop themselves spontaneously; they are all different from each other, each having peculiar attributes; all are, properly speaking, souls, being endowed with perception, though those which compose material objects do not possess apperception or consciousness; all are independent of each other, each having its own means of development, and forming a microcosm or living image of the whole universe. In every monad might be read the world's history from beginning to end, each of them being a kind of deity (*parvus in suo genere deus*). God is the absolute, original monad, from which all the rest are generated; the primitive and necessary substance, in which the detail of changes exists eminently. Hence follows another doctrine of Leibnitz's philosophy, that of preëstablished harmony. The dualism of Descartes is rendered unnecessary by the reduction of mind and matter to the same essence, the former being represented by conscious, and the latter by unconscious monads. But these

two classes of monads are wholly unlike, and exert no influence on each other. To explain their relation, therefore, Leibnitz reverts to the original constitution of things as perfected by God himself, who, he maintains, has so harmonized all the monads of which the universe is composed, that they work in complete unison in order to accomplish the end for which they were intended. This harmony is not only pre-established by a divine decree, but is produced by virtue of the very nature of monads. In one view, every volition of a rational agent finds in the constant procession of physical forces a concurrent event by which it is executed; and in another view, the monads of the human system and of the outward universe are so accommodated to each other, each being a representative of all the rest and a mirror of all things, that each feels all that passes in every other, and all conspire together in every act, more or less effectively in proportion to their nearness to the prime agent. Hence the harmony between all the parts of matter, between the future and the past, between divine decrees and human actions, between the reign of efficient and that of final causes. The transition from these principles to Leibnitz's doctrine of optimism is easy. Evil is a necessary condition of finite being. The existing universe is one of innumerable possible universes, each of which would have had a different measure of good and evil. The present was made actual, because it presented to the Divine Intelligence the smallest degree of the latter and the largest of the former. Metaphysical evil consists simply in limitation, and moral evil is permitted only for the sake of a greater ultimate good. It follows that he maintained the doctrine of philosophical necessity as the only kind of liberty consistent with the pre-established order of the universe. The want of a logical and connected statement of the philosophy of Leibnitz was supplied by his disciple Wolf.—Leibnitz was of medium stature, of a spare but vigorous frame, was accustomed to eat much and drink little, regulated his meals by his pursuits and not by time, usually studied far into the night, sometimes sat by his desk almost without rising for months, sleeping in his chair, liked to converse with all sorts of people, and was never married. He wrote very little in his native language, his important treatises being either in Latin or French. His philosophical works were edited by Erdmann (Berlin, 1840); his historical works by Pertz (Hanover, 1848); his mathematical works by Gerhardt (Berlin, 1849-'50). A complete edition of all his writings is now (1860) in progress in Paris, under the care of Count Foucher de Careil, who has already published as preparatory studies two series of *Lettres et opuscules* (1854-'7). The best biography is by Guhrauer (2 vols., Breslau, 1842; with additions, 1846). This is the basis of the "Life of Leibnitz," by J. M. Mackie (Boston, 1845).—Compare Schelling, *Leibnis als Denker*; Hartenstein, *De Materia apud Leibnitz Notitione*; Helferich, *Spinoza*

und Leibnitz, oder das Wesen des Idealismus und Realismus; Feuerbach, *Darstellung, Entwicklung und Kritik der Leibnizschen Philosophie* (Anspach, 1887); and Zimmermann, *Leibnis und Herbart, eine Vergleichung ihrer Monadologie* (Vienna, 1849).

LEICESTER (anc. *Rata*), a manufacturing town and the capital of Leicestershire, England, situated near the centre of the co., on the right bank of the Soar, which is here crossed by three ancient bridges and a handsome modern one, 102 m. by railway N. N. W. from London; pop. in 1851, 60,642. The staple manufacture is cotton and worsted hosiery. It is the centre of a great agricultural and wool raising district, and fairs are held for horses, cattle, and sheep 12 times a year. Under the Romans as well as under the Saxons Leicester was a place of importance; and numerous vestiges of those ancient times are still in existence. In 1851 some handsome tessellated pavements and other Roman remains were discovered. The name Leicester is derived from the river Leire (now Soar). Leicester had formerly a mint in which were produced a succession of coins from the time of the Saxon Athelstan to Henry II. The borough is governed by 14 aldermen and 42 councillors, one of whom is mayor; it returns two members to the imperial parliament.

LEICESTER, EARL OF. See DUDLEY, ROBERT.

LEICESTER OF HOLKHAM, THOMAS WILLIAM COKE, earl of, an English agriculturist, born May 4, 1752, died June 30, 1842. He was regarded, after the death of the duke of Bedford, as the first agriculturist in the kingdom. His estate of Holkham, in Norfolk, the rental of which he raised in the period of some 60 years that it was in his possession from £2,000 to above £20,000, was the pride of the county. His annual sheep shearing, at which he entertained hundreds of guests for several days, was reckoned the greatest agricultural festival in the world. His methods of cultivation were based upon scientific principles. He introduced choice breeds of cattle and the rotation of crops, and recommended the extensive planting of turnips. He represented the county of Norfolk in parliament, with a brief interval, from 1776 to 1832. An intense hatred of toryism constituted almost the whole of his political system, but he spoke little except when agricultural measures were before the house. In 1837 he was created earl of Leicester of Holkham. Sixty years before he had been twice offered a peerage; but he refused to accept any thing but the earldom of Leicester, which had been held by his maternal great-uncle, whose estates he inherited, but not his title, which had meantime been given to another person. As this earldom was still held by Marquis Townshend, the title was varied for Mr. Coke by the addition of the name of his own estate.

LEICESTERSHIRE, an inland central county of England, bounded by the counties of Nottingham, Lincoln, Rutland, Northampton, Warwick,

and Derby; length 44 m., breadth 40 m.; area, 808 sq. m.; pop. in 1851, 280,508. The surface consists almost entirely of gently rising hills, but nowhere presents any bold features. The county is chiefly included in the basin of the Trent, the principal tributary of which in Leicestershire is the Soar (anc. *Leire*). The Avon, a tributary of the Severn, forms the S. boundary for nearly 8 m.; and the Welland, which falls into the Wash, for about 17 m., separating Leicestershire from Northamptonshire. The E. portion of the county belongs to the lias formation, and the W. to the sandstone. Coal exists to a considerable extent in the west. Limestone, gypsum, slate, whetstones, and clay are also found. The climate is mild and genial. The soil is loamy, and varies in fertility. The best soils are generally kept in pasture, for which the county is preëminent. The principal crop is barley; but wheat, oats, and beans are extensively cultivated. Leicestershire has long been famous as a hunting county, Melton-Mowbray being the head-quarters of the sportsmen during the season. The chief towns are Leicester (the county town), Ashby-de-la-Zouch, Bosworth, Market-Harborough, Lutterworth, Melton-Mowbray, Mount Sorrel, Whitwick, and Castle Donnington. Leicestershire formerly returned only 2 members to parliament. By the reform act it was divided, and now returns 4 members, beside 2 for the borough of Leicester.

LEIDY, JOSEPH, an American naturalist and physiologist, born in Philadelphia, Sept. 9, 1828. He was graduated M.D. at the university of Pennsylvania in 1844, and in 1853 was elected to the chair of anatomy in that institution, which he still occupies. Dr. Leidy has cultivated the sciences of comparative anatomy and vertebrate palæontology, to both of which he has contributed many valuable memoirs, chiefly published in the "Proceedings of the Academy of Natural Sciences," the "Transactions of the American Philosophical Society," and the "Smithsonian Contributions to Knowledge."

LEIGH, BENJAMIN WATKINS, an American lawyer and statesman, born in Chesterfield co., Va., June 18, 1781, died Feb. 2, 1849. He studied at William and Mary college, and as soon as he became of age was admitted to the bar. He practised successfully in Petersburg, Va., and was soon elected to the legislature from Dinwiddie co., presenting in that body a series of well known resolutions asserting the right of the legislature to instruct the U. S. senators from Virginia. In 1818 he removed to Richmond, where he at once took a high place at the bar. He was one of the commissioners appointed to revise the statutes of Virginia, and reported the arguments and decisions in the court of appeals. In 1822 he was sent as commissioner to Kentucky, and, in concert with Mr. Clay on the part of that state, adjusted an agreement concerning the "occupying claimants law," which threatened to annul the Virginia titles to lands in Kentucky. He was a member of the convention of 1829-'30, in which he held

a prominent position, and in 1835 was elected to the U. S. senate, where he took an active and eloquent part in debate; but finding that his views were not those of the majority of his constituents, he resigned in 1837 and passed the rest of his life in retirement.

LEIGHTON, ROBERT, a Scottish prelate, born in Edinburgh in 1611, died in London, June 26, 1684. He was educated at the university of Edinburgh, and in 1641 became pastor of a Presbyterian church near that city. He held aloof from the political controversies which then engrossed many of the clergy, and when questioned by the presbytery "if he preached to the times," he replied: "Since all my brethren preach to the times, suffer one poor priest at least to preach on eternity." He soon resigned his pastoral charge, and in 1653 was elected principal of the university of Edinburgh. On the accession of Charles II. an attempt was made to establish episcopacy in Scotland. Leighton was favorably disposed toward the system, though his father had been savagely persecuted by Laud for his opposition to it; and, in the hope of moderating the violent dissensions of the time, he reluctantly consented to accept a bishopric, choosing that of Dumblane as being one of the poorest in revenue. In 1670, on the resignation of Sharpe, he was transferred to the archbishopric of Glasgow; but finding himself unequal to the difficulties of his new dignity, he resigned it in 1674, and retiring to England, spent his remaining days in that country. He left various works, the best known of which is his "Practical Commentary on the First Epistle General of St. Peter." A complete edition of his writings appeared in 1808 (6 vols. 8vo., London).

LEININGEN, KARL, prince of, half brother of Queen Victoria, born April 12, 1804, died Nov. 8, 1856. He was the only son of Prince Emil of Leiningen and the princess Victorie Marie Louise of Saxe-Coburg, afterward the wife of the duke of Kent. He inherited the possessions of his father in 1814, and held a high rank in the Bavarian army. He had a mania for building, and established manufactures which helped to improve the condition of the poor. The eldest of his two sons by his marriage with the countess of Kletelsburg, Prince ERNST, born in 1830, distinguished himself in the naval operations during the Crimean war, obtained a lieutenancy in the British navy in April, 1856, and soon afterward was appointed 2d lieutenant of her majesty's steam frigate *Magicienne*. Count KARL, a member of another branch of the Leiningen family, born in 1819, served as general in the Hungarian war, and was executed at Arad, Oct. 6, 1849.

LEINSTER, one of the 4 provinces of Ireland, constituting the S. E. part of the island, between lat. 52° 7' and 54° 6' N. and long. 6° and 8° 3' W., bounded N. by Ulster, E. by St. George's channel, S. by the Irish sea, and W. by Connaught; length N. and S. 150 m.; area, 7,619 sq. m.; pop in 1841, 1,973,731; in 1851, 1,672,174. It is divided into 12 counties, viz., Carlow,

Dublin, Kildare, Kilkenny, King's, Longford, Louth, Meath, Queen's, Westmeath, Wexford, and Wicklow, beside the cities of Dublin and Kilkenny, and the town of Drogheda, which are counties in themselves. The coast is generally low, but in some places bold and rocky. The best harbors are at Dublin, Drogheda, Dundalk, and Carlingford. There are no large lakes. The province contains 6 navigable rivers, the Shannon, Barrow, Nore, Boyne, Liffey, and Slaney. The surface is partly level and partly rolling, being on the whole the least broken portion of Ireland. There are 3 or 4 mountain groups occupying parts of Wicklow, Dublin, Carlow, Wexford, King's, and Queen's counties, and a few hills in Westmeath, Louth, and Kilkenny. Elsewhere are large peat fields, the principal of which is the great bog of Allen. The soil, resting on limestone and clay slate, is the best in the kingdom; 4,037,717 acres are arable, 1,705,684 having been under crops in 1855, and the rest devoted to pasturage. The produce was estimated in 1855 at 634,988 quarters of wheat, 2,619,153 of oats, 477,650 of barley, 89,160 of bere, 18,763 of rye, and 1,181,637 tons of potatoes. The breadth of flax cultivated has fluctuated from 741 acres in 1849 to 4,889 in 1851, and 2,142 in 1855. The Kilkenny coal field, between the Barrow and Nore, is the most extensively worked in Ireland, and also produces excellent ironstone. Wicklow has 5 copper and 4 lead mines, yielding silver, and in Croghan there is a gold mine, now abandoned. From 80,000 to 100,000 tons of sulphur are procured in Wicklow. At the time of the Anglo-Norman invasion in the 12th century Leinster was divided into two kingdoms, Meath in the N. and Legania or Leinster proper in the S.

LEIPSIQ (Ger. *Leipzig*), a German commercial and university city, in the kingdom of Saxony, beautifully situated in an extensive and fertile valley, watered by the Pleisse, here joined by the Elster and other small rivers, within a few miles of the Prussian frontier, 129 m. by railway from Berlin, and about 60 from Dresden; pop. in 1858, 74,209, including the military; pop. of the district of the same name, of which Leipsic is the capital, 484,225. Most of the ancient fortifications, excepting the castle or citadel of Pleissenburg, have been converted into public walks and partly laid out as gardens. The streets of Leipsic, though well paved and lighted with gas, are generally narrow, and the public buildings are of comparatively little architectural interest. The most fashionable public square is the Augustusplatz; and the most picturesque from the quaintness of its buildings, particularly of the town hall (*Rathhaus*), is the Marktplatz. The allied sovereigns met in this square after the battle of Leipsic, previous to which Napoleon had resided there in the *Königshaus*, so called from having formerly served as an electoral and royal residence. Near the square stands Auerbach's cellar, made famous by Goethe's "Faust," and still much frequented by the students. The principal Protestant churches are those of St.

Nicholas, St. Thomas, and St. Paul's or university church. A new Roman Catholic church was completed in 1847, and a synagogue commenced in 1853. Leipsic contains monuments of Gellert; of Prince Poniatowski, who was drowned in the Elster at the close of the great battle in 1813; of Hahnemann, of Bach, and of other eminent persons. Among the principal public buildings are the observatory, which occupies the tower of the citadel of Pleissenburg, the general exchange and book exchange, the Saxon-Bavarian railway depot, the post office, the custom house, finished in 1853, and the new warehouses. Leipsic takes a foremost position in Germany, in the history of the reformation as well as of literature. The 300th anniversary of the formal introduction of Protestantism in the town was celebrated there with great rejoicing in 1839, and the 400th of the discovery of the art of printing in 1840. The university is one of the oldest in Germany. The 450th anniversary of its foundation was celebrated Dec. 2, 1859. Prominent among the university buildings is the *Augusteum*, 800 feet long and 3 stories high, containing a great hall, lecture room, museums of natural history, and a library with 160,000 vols. and 2,500 MSS. The use of the German language as a medium of public learned instruction was first introduced in Leipsic (1688) by Thomasius, the teacher of Leibnitz, who was a native of the city. An English writer says of the university: "This is one of the few scholastic establishments on the continent which has retained its own landed estates, most of the others having been stripped within the last 50 years, and being now supported by annual grants. In other respects, also, it resembles our English universities; commons being kept for students who demand it on the plea of poverty." The property of the institution is very considerable; and the endowment for stipends, free board, &c., amounts to over \$500,000, nearly 200 poor students being sometimes supported by the university. Philology was long the great speciality of the university, although many of its leading members have been eminent in other branches, as Wunderlich in medicine, Wachsmuth and Flathe in history, Drobisch in mathematics, Naumann in mineralogy, Pöppig in zoology, Seyffarth, Fleischer, and Brockhaus in oriental learning, Erdmann in chemistry, and Mettenius in botany. But many of the most learned men have been compelled to retire, chiefly for political reasons, as Von der Pfordten, Harless, Weber, Moritz Haupt, Mommsen, and Jahn; while J. F. J. Hermann, the principal recent promoter of the study of philology in Leipsic, died in 1848. The university has suffered from these losses, and the attendance of students has diminished from 1,300 in the early part of this century to about 800 in 1860. Leipsic possesses also many excellent colleges and schools, a town library with a remarkable collection of oriental MSS. and Turkish works, and a considerable number of societies and journals for the promotion of sci-

ence, letters, and art. A conservatory of music was founded by Mendelssohn-Bartholdy in 1848, and a professorship of music was established in the university in 1860. Few towns are more devoted to the cultivation of music and the drama. The charitable and religious associations are numerous, and a new poorhouse was built in 1858. The annual commercial fairs of Leipsic are the most important in Europe, and are attended by persons of almost all nations, but chiefly by Germans, Poles, Russians, and the Slavi generally. The number of visitors is generally about 60,000, and the transactions amount to \$60,000,000 annually. Notwithstanding the commercial magnitude of its fairs, Leipsic is still more extensively known by the book trade of which it is the centre. (See BOOKSELLING.) In 1858 there were in Leipsic 178 booksellers, employing 227 assistants and 107 apprentices, beside which there were resident agents of 2,054 German publishing houses. The principal publishing houses are those of Brockhaus and Tauchnitz.—Leipsic is first mentioned as a town in the beginning of the 11th century, and its commercial importance began as early as the 18th. It suffered much during the 30 years' war, and the great victory of Gustavus Adolphus over Tilly (Sept. 7, 1631) was gained in its vicinity at Breitenfeld. On Oct. 16–19, 1813, was fought the memorable battle of Leipsic, called by the Germans the great *Völkerschlacht*, which precipitated the downfall of the emperor Napoleon, already weakened in his resources by the disasters of the Russian campaign. On the 16th the main army of the allied troops of Russia, Prussia, and Austria, about 160,000 strong, under Prince Schwartzberg, attacked the French stationed in and around Leipsic, and from 9 o'clock in the morning until noon a series of villages on the south of the city occupied by the French were furiously but unsuccessfully assaulted. Napoleon, assuming the offensive, then adopted his favorite measure of a grand attack on the enemy's centre, and a powerful column of the old and young guards, preceded by a train of artillery, pierced the allied army. Schwartzberg ordered up his reserves, and Napoleon doing the same, a general engagement ensued along the whole line of attack, distinguished by frequent charges of immense bodies of cavalry. At one time Murat at the head of the cuirassiers of the old guard nearly succeeded in capturing the emperor of Russia and the king of Prussia; but the Cossacks of the imperial guard and the Austrian reserves coming up to the front at all points, the French were checked, and at nightfall both armies remained nearly in the position they had occupied in the morning. The only decided success of the French was on the western side of Leipsic, where Gen. Bertrand drove back the Austrians under Gyulai, and preserved a line of retreat through Lindenau in case of disaster. During the engagement between the main armies Blücher arrived from Halle with the army of Silesia, about 60,000 strong, and after an obstinate conflict drove

Marmont out of the village of Möckern. On the 17th both armies by tacit agreement rested, and Napoleon, conscious of his weakness, made an ineffectual attempt to procure an armistice. The 18th found his forces, about 160,000 in number, arranged in a semicircle around the north, east, and south of the city; while to oppose him Schwartzberg, strengthened by the arrival of the Russian reserves under Benningesen and Bernadotte's army of the north, brought into the field 300,000 men and nearly 1,400 cannons. Against these odds the French fought with heroic courage, and their artillery, amounting to 800 pieces, was played with a rapidity and effect which for a long time kept their assailants in check. Gradually their circle of defence was narrowed, and at a critical period of the day they were weakened by the defection of large bodies of Saxon and Würtemberg troops, who immediately turned their guns against their former comrades. The allies having at length penetrated into the suburb of Schönfeld, Napoleon became convinced that the city was no longer tenable, and, taking advantage of a cessation of hostilities at nightfall, commenced a retreat. Amid a scene of fearful confusion the French filed off through Lindenau. Early on the morning of the 19th the allies forced an entrance into the city, and a terrible conflict ensued with the French rear guard, who were encumbered with immense trains of baggage and artillery and crowds of wounded. In the height of the *mêlée* the bridge of Lindenau, the only outlet of retreat over the river Elster, was prematurely blown up, leaving 15,000 soldiers, beside 23,000 sick and wounded in the hands of the allies. Marshal Maedonald by great exertions succeeded in swimming his horse across the river, but Prince Poniatowski in attempting the passage was drowned. The total loss of the French during the 8 days of fighting was 60,000; that of the allies 50,000. At 2 P. M. on the 19th the carnage ceased, and Napoleon was in full retreat toward the Rhine.

LEISLER, JACOB, an American political adventurer, born in Frankfort-on-the-Main, Germany, executed in New York, May 16, 1691. He came to America in 1660 as a private soldier in the service of the Dutch West India company. Leaving the army soon after his arrival, he engaged in the Indian trade, and became, for that day, a comparatively wealthy man. In 1674 he was appointed a commissioner of the forced loan imposed by Colver. While on a voyage to Europe in 1678 he was captured by Moorish pirates, and was compelled to pay a ransom of 2,050 pieces of eight to obtain his freedom. Previous to this voyage he was a resident of Albany, and had been involved in the ecclesiastical difficulties of that city in 1676, in which he suffered both in character and purse, having been mulcted in the entire cost of the litigation which was instituted by him and Jacob Milborne, who afterward became his son-in-law as well as his secretary and fellow sufferer. Under Dongan's administration in 1683 he was appointed one

of the judges, or "commissioners" as they were styled, of the court of admiralty. In 1688 Gov. Dongan was succeeded by Lieut. Gov. Francis Nicholson, who was in command of the colony when Jacob Leisler, supported by the mass of the lower orders of the inhabitants, seized the fort and the public funds on the last of May, 1689, for "the preservation of the Protestant religion." On June 2 Leisler with his own train band of 49 men took possession of the fort, and resolved, as he expressed it himself, not to leave until he had brought all the train bands fully to join with him. On the next day he declared for the prince of Orange. A committee of safety was then formed, who on June 8 commissioned Leisler as "captain of the fort." In this capacity he at once began to repair the fort, and strengthened it with a "battery" of 6 guns beyond its walls, which was the origin of that public park still known as the Battery. Nicholson and the council of the province, with the authorities of the city, headed by Stephanus van Cortlandt the mayor, attempted by pacific means to prevent the uprising, but without effect. Becoming finally alarmed for their own safety, the lieutenant-governor sailed for England, and the mayor with the other officials retired to Albany. On Aug. 16 the committee of safety appointed Leisler "commander-in-chief of the province," with the full power of a governor in all matters civil and military. He now attempted to reduce Albany and the northern parts of the colony, which from the first had refused to recognize his authority, notwithstanding that that city as well as the whole province had acknowledged William and Mary immediately on the arrival of the news of the great revolution in England in the preceding June. Milborne was despatched in November, 1689, with an armed force, to Albany to assist in its defence against some Indian hostilities which were threatened, but directed by Leisler to withhold it unless his own authority was recognized. This was refused, and Milborne returned unsuccessful. In December arrived a despatch from William and Mary directed "to Francis Nicholson, Esq., or in his absence to such as for the time being takes care for preserving the peace and administering the laws in his majesty's province of New York." This Leisler construed as an appointment of himself as the king's lieutenant-governor. He therefore dissolved the committee of safety, swore in a council, and assumed the style of a royal lieutenant-governor and commander-in-chief. After the massacre at Schenectady (Feb. 1690) he engaged with great vigor in the expeditions against the French, and equipped and despatched against Quebec the first fleet of men-of-war that was ever sent forth from the port of New York. A few months later Major Ingoldsby arrived with the news of Slougher's appointment as governor, and demanded possession of the fort, which Leisler refused. On Slougher's own demand immediately upon his arrival in March, 1691, he likewise refused to surrender

it, until he was convinced of Slougher's identity, and the latter had sworn in his council. Leisler was immediately imprisoned, charged with treason and murder, and shortly after tried and condemned to death. His son-in-law and secretary Milborne was also condemned on the same charges. These trials were manifestly unjust; the judges were the personal and political enemies of the prisoners, and so gross were the acts of some of the parties that Slougher hesitated at signing the death warrants, and it is said that he finally did so when under the influence of wine. By the laws of England and of New York Leisler was a traitor, but his crime was that of a weak and ignorant man intoxicated with unexpected success and power.

LEITH, a seaport town of Edinburghshire, Scotland, situated on the Water of Leith at its confluence with the frith of Forth, lat. 55° 58' N., long. 8° 10' W., almost adjoining Edinburgh; pop. in 1851, 80,919. Until the passing of the burgh reform act of 1833, it was dependent upon and governed by the city of Edinburgh, of which it forms the port. The town is built on the low ground adjoining the frith. The more ancient streets and lanes are narrow and tortuous, but those of the modern part of the town are commodious and well built. The harbor, originally a difficult one, on account of the sands brought down by the river accumulating within it, is now one of the most commodious on the E. coast; and its piers, docks, and other works which have been constructed within the past 50 years, afford excellent accommodation for shipping. A large portion of the trade of this port is with the Hanse towns, Holland, Denmark, and the Russian Baltic ports. The shipping registered in the port of Leith, Dec. 31, 1857, consisted of 149 sailing vessels, tonnage 20,507, and 89 steam vessels, tonnage 7,367. In the coasting trade during the year then ending there entered the port with cargoes 1,530 vessels, tonnage 233,213; the clearances coastwise were 1,237, tonnage 225,186. In the colonial trade the entrances were 22, tonnage 9,051, and the clearances 29, tonnage 13,537. The entrances from foreign countries numbered 1,219, tonnage 161,428, and the clearances 424, tonnage 74,886. Of the entrances 851, tonnage 86,217, and of the clearances 200, tonnage 22,060, were foreign vessels. The customs revenue for 1856 amounted to £493,817, and for 1857 to £486,646. The municipality is governed by a provost, 4 bailies, and 10 councillors; and conjointly with Portobello and Musselburgh, it constitutes a parliamentary burgh, which sends one member to the imperial parliament.

LEITRIM, a maritime county of the province of Connaught, Ireland; area, 618 sq. m.; pop. in 1851, 111,915. Lough Allen divides the county into two very nearly equal parts, that lying S. being chiefly an undulating plain, bounded on the W. by the Shannon, and that lying N. hilly with intermediate valleys traversed by fertilizing streams. Loughs Macnean (4 by 2 m.) and Melvin (8 by 2 m.) separate the N. E. part of

the county from Fermanagh, and the river Duff separates it from Sligo. The coast for the most part is a rocky bluff rising above a rough stony beach, and exposed to the whole swell of the Atlantic. It has no port or harbor; there are salmon fisheries at the mouths of the rivers. The principal streams are the Shannon, Rinn, and Bonnet. The surface is diversified, and in the valleys and plains the soil is extremely fertile. It is chiefly underlaid with limestone, with sections in the hilly portions of millstone grit, sandstone, conglomerate, and graywacke, and near Lough Allen is an extensive coal formation. Lead, copper, and manganese are found, and fullers' earth, potters' clay, steatite, and marls are abundant. The climate is raw and damp, but more genial in the S. than in the N. The principal crops are potatoes, oats, and hay; the county generally is more adapted to grazing than tillage. Turf fuel is everywhere abundant. The manufactures produced are linens and woollens for domestic use, and a coarse pottery. The principal towns are Carrick-on-Shannon (the county town), Manor-Hamilton, and Mohill. The county sends two members to parliament.

LEKAIN, HENRI LOUIS CAIN, a French tragedian, born in Paris, April 14, 1728, died Feb. 8, 1778. He was the son of a goldsmith in very moderate circumstances, and after studying at the Mazarin college, where he imbibed a taste for the dramatic art, he was placed at his father's trade. His performance as a member of a private dramatic association attracted the notice of Voltaire, who aided him liberally with money and advice, and procured for him permission to appear on the stage at the *théâtre Français*, where he met with both warm applause and bitter opposition. He persevered, corrected his faults, and after 17 months obtained a regular engagement at that theatre. From this period he constantly improved, and secured such popularity that his death was looked on by the patrons of the drama as a public calamity. His fame has scarcely been equalled by that of Talma or Rachel. He was peculiarly great in most of Voltaire's tragedies. His *Mémoires* were published by his son in 1801, and reprinted at Paris in 1825 under the supervision of Talma.

LELAND, CHARLES GODFREY, an American author, born in Philadelphia, Aug. 15, 1824. He was graduated at Princeton college, N. J., in 1846, and subsequently studied at the universities of Heidelberg, Munich, and Paris, devoting himself more particularly to the modern languages, æsthetics, history, and philosophy. He was residing in the last named city during the revolutionary outbreaks in Feb. 1848, and was one of the American deputation sent to congratulate the provisional government. He returned to Philadelphia in the same year, studied law with John Cadwallader, Esq., and was admitted to the bar; but he soon relinquished that profession for the pursuit of literature. He has since been connected as editor or contributor with a number of periodicals, including the "Knickerbocker Magazine," for which he began

to write while a student in college, "Sartain's Magazine," the "International Magazine," "Graham's Magazine," the "Philadelphia Bulletin," &c. His published works consist of the "Poetry and Mystery of Dreams" (Philadelphia, 1855), in the preparation of which he consulted the works of Artemidorus, Nicephorus of Constantinople, and other authors, ancient and modern, who have written on oneirology and the related mental phenomena; and "Meister Karl's Sketch Book" (12mo., 1856), a collection of miscellanies and sketches of foreign travel, many of which first appeared in the "Knickerbocker" and elsewhere. In 1856 appeared his "Pictures of Travel," a translation of Heine's *Reisebilder*. He at present resides in New York.

LELAND, JOHN, D.D., an English Presbyterian divine, born in Wigan, Lancashire, in 1691, died in Dublin, Jan. 16, 1766. Though engaged through life in polemical warfare, he was remarkable for charity and candor. His principal works are: "The Divine Authority of the Old and New Testament" (2 vols. 8vo., 1739-40); "View of the Principal Deistical Writers that have appeared in England in the Past and Present Century" (1754); and "The Advantage and Necessity of the Christian Revelation" (2 vols. 4to., 1764).

LELAND, JOHN, an American clergyman, born in Grafton, Mass., May 14, 1754, died in North Adams, Mass., Jan. 14, 1841. He was baptized in 1774, a few months later was licensed as a Baptist preacher, and in 1775 removed to Virginia, where until 1791, with the exception of occasional visits to the North, he was actively employed in discharging the duties of his office. In Feb. 1792, he settled in Cheshire, in western Massachusetts, where he resided for the most part until his death. He was one of the most prolific writers of his denomination, and during his long ministry preached many thousand original sermons, and baptized more persons probably than any one of his contemporaries. His literary productions, consisting of occasional sermons, addresses, and essays on a variety of subjects, together with his autobiography and additional notices of his life by Miss L. F. Green, were published in 1 vol. 8vo. in 1845. He was a man of much eccentricity of character and native shrewdness, and throughout his life took the warmest interest in politics. In the latter part of 1801 he went to Washington to present to Mr. Jefferson a mammoth cheese weighing 1,450 pounds, as a testimonial of the esteem and confidence of the people of Cheshire in the new chief magistrate. He was firmly attached to the democratic party, and sometimes manifested his predilections in his pulpit discourses.

LELEGES, an ancient people, who appear in the early traditions of the western coast of Asia Minor, of the islands of the Ægean sea, and of various countries of Hellas and Peloponnesus, but whose history is involved in great obscurity. They are mentioned in Homer as the allies of the Trojans; Herodotus identifies them with the Carians; and Pausanias regards them as a

part of the latter people. They seem to have been of Pelasgian race, and to have become connected with the Carians after an emigration from the continent of Greece to the islands, whence they followed them to Asia Minor.

LELEWEL, JOACHIM, a Polish historian and statesman, born in Warsaw, March 20, 1786. He studied history at Wilna, and, having distinguished himself by a dissertation, was appointed professor of history at the classical school of Kremenetz in Volhynia, under the direction of its founder, Thaddeus Czacki. He subsequently received the same position at the university of Wilna, which under the curatorship of Prince Adam Czartoryski had become the foremost seat of learning in the Polish provinces. By a number of critical treatises, which embraced the most varied topics of ancient, mediæval, and in part of modern history, he rapidly rose to the first rank among Polish historians, his works being especially admired for diligent research, while his patriotic spirit, democratic tendencies, and bold language made him the favorite lecturer of the university. The last named characteristic, however, caused his removal from it in 1823, followed by a most rigorous persecution of the patriotic students by the new curator. He then returned to his native city, and continued his literary labors until 1830, when he was elected a member of the diet by a town of Podlachia. He spoke boldly against the measures of the government, but on the outbreak of the revolution of Nov. 29 was prevented by attendance on his dying father from an active participation in the first conflict. He was, however, one of the principal promoters and acknowledged leaders of the movement, and was a member of the various revolutionary governments which succeeded each other before the events of Aug. 15, 1831, which he was accused of having brought about by his course as president of the democratic club. After the fall of Warsaw in the following month, he hastened to Paris, where he was placed at the head of a national committee by the democratic Polish emigrants. The revolutionary activity of the committee drew upon Lelewel not only the enmity of the continental governments, but also severe attacks from the aristocratic and military fractions of the Polish refugees, headed by Czartoryski, Bem, and others, who expected an intervention in favor of Poland less from the nations than from the constitutional governments of Europe. The committee was dissolved, Lelewel removed from Paris by order of the government of Louis Philippe, and finally, after the failure of several Polish conspiracies in various countries, he was banished from France. He repaired to Brussels, where he lectured on history at the new university, and where he has since resided, living a life of self-imposed poverty, which, together with an almost marvellous literary activity, has won him the admiration even of his enemies. Among the most important of his numerous works, in Polish, French, and German, are: a "History of Poland" for youth (Warsaw, 1829);

"Treatises on Geographical and Historical Subjects" (Leipsic, 1836); "Numismatics of the Middle Ages" (Paris, 1836); "Numismatical Studies" (Brussels, 1840); "Poland Regenerated" (Brussels, 1843); "Poland in the Middle Ages" (Posen, 1846-'51); "Geography of the Arabs" (Paris, 1851); and "Geography of the Middle Ages," with an atlas engraved by himself (Brussels, 1852), the greatest and most admired of his publications.

LELY, SIR PETER, a portrait painter of the time of Charles II. of England, born at Soest, Westphalia, in 1617, died in England in 1680. His family name was originally Van Der Faes, but his father assumed the name of Lely. He was instructed in painting by Peter Grebber of Haarlem, and at 20 years of age had acquired some reputation for his landscapes and portraits. Visiting England in 1641, he determined to follow the example of Vandyke, and thenceforth devoted himself almost exclusively to portrait painting, in which he soon surpassed all his contemporaries. The prince of Orange introduced him in 1648 to the notice of Charles I., who sat to him for his portrait, after which he was employed by other members of the royal family, and persons of distinction. During the commonwealth he remained in England, and is said to have painted the portrait of Cromwell, who warned him that unless he made a true likeness, with all the roughnesses, pimples, and warts as he saw them, he should not receive a farthing for the picture. At the restoration, however, his pencil found its most congenial employment; and as court painter to Charles II., who made him a knight, he gained great wealth and distinction. He excelled in female portraits, and his celebrated series of the "Beauties of the Court of Charles II.," preserved at Hampton Court, which are well known through the engravings attached to Mrs. Jameson's work bearing the same title, afford the best illustration of his graceful and sprightly pencil. His portraits of men are much inferior. His coloring was clear and warm, his drawing good, and his arrangement of draperies and costume in excellent taste. The attitudes and expression of his female portraits sometimes border on the voluptuous, but the grossness is generally redeemed by a high-bred and aristocratic bearing which seems perfectly unstudied. Sir Peter was noted also for the delicate painting of the hands in his female portraits, as in that of Nell Gwynn, one of the most favorable specimens of his style. The landscapes in his portrait pieces were generally executed by other hands. He occasionally painted historical pictures, of which the best known is "Susannah and the Elders," at Burleigh house.

LEMAIRE, NICOLAS ÉLOI, a French classical scholar, born in Triancourt, Meuse, Dec. 1, 1767, died Oct. 3, 1832. He completed his studies in the college of St. Barbe in Paris, and became professor of rhetoric in 1790. Embracing the extreme revolutionary opinions, he was a deputy judge in 1793. Under the consulate he trav-

alled in Italy, and delivered brilliant Latin improvisations in several cities. He at length overcame the prejudices of Napoleon, and obtained in 1811 the chair of Latin poetry in the faculty of letters, where his lectures attracted distinguished audiences. Under the restoration he began his most important work, the *Bibliotheca Classica Latina* (184 vols., Paris, 1818 *et seq.*), which he left unfinished at his death. It embraces 18 poets and 16 prose writers. Lemaître is the author also of several original Latin poems.

LEMAÎTRE, FRÉDÉRIC, a French actor, born in Havre in July, 1798. He comes of a family of artists, his grandfather having been a musician and his father an architect. At an early age he prepared himself for the theatrical profession, enjoying the instruction of M. Lapont at the *conservatoire* of Paris. In 1822 he failed in a competition for prizes offered to the pupils of that institution; only a single vote was recorded in his favor, but that was given by Talma. In 1823 he made his début at the *Ambigu comique*, but his reputation was not firmly established till 1834 by his personification of Robert Macaire, at the *Folies dramatiques*, in the play of that name, of which he was one of the authors. His rendering of Alexandre Dumas' *Kean*, and particularly of Victor Hugo's *Ruy Blas* (1836), and of Balzac's *Vautrin* (1840) added to his fame, although not even his acting could save the latter play from being withdrawn on account of its reflections upon Louis Philippe. In 1842 he played for some time at the *théâtre Français*, but his genius was not suited to those classic boards. He has since performed alternately at the Porte St. Martin, the Gaité, the Variétés, the Odéon, and the Ambigu Comique. In these theatres, where the modern French drama is flourishing, he has been so successful in amusing the audiences in his comic and moving them in his tragic parts, that he has often been called the Talma of the boulevards. Among his most popular performances, beside Robert Macaire, are Don César de Bazan and Toussaint L'Ouverture. More recently he has won great applause in *Le vieux caporal* (1853), *Henri III.* (1856), and *Le maître d'école* (1859). He has shared in the authorship of various plays.

LEMAN, LAC. See GENEVA, LAKE OF.

LEMBERG, or LEPOL (Pol. *Lwów*), the capital of Austrian Galicia, situated on the small river Peltaw, a tributary of the Bug, about 200 m. E. from Cracow and 400 m. E. N. E. from Vienna; pop. 75,000, over $\frac{1}{2}$ of whom are Jews. The city proper is small, but the 4 suburbs are extensive and contain many handsome houses; and the lofty towers of the cathedral and the 22 other churches, as well as the massiveness of other public edifices, give to the city an imposing appearance. The university of Lemberg was founded in 1784; the average annual attendance of students is now about 1,000. The city possesses also an institute, established by Ossolinski, rich in Slavic antiquities and in ancient Polish literature. It is the seat of the governor

of Galicia (in 1860, Count Goluchowski), of Roman Catholic, United Greek, and Armenian archbishops, and of Protestant superintendents. Some manufactures are carried on, but it is chiefly as a commercial town, with large annual fairs, and as one of the principal corn markets of Austria, that Lemberg is important. The city was founded in the 13th century, taken by Casimir I. of Poland in 1340, besieged in 1648 by the revolted Cossacks under Ohmielnicki, who withdrew on receiving a large ransom, and captured by the Turks in 1672, when it ceased to be of importance as a fortress. After having been more than 4 centuries in the possession of Poland, it came to Austria at the first partition of that country in 1772. It was bombarded by the Austrians during the outbreak of Nov. 2, 1848.

LE MICHAUD. See ARÇON, JEAN CLAUDE ÉLÉONORE D'.

LEMMING, a small rodent of the sub-family *arvicolinae* or field mice, and the genus *myodes* (Pallas); authors have also referred it to *georychus* (Ill.), *lemmus* (Zinn), and *hypudaeus* (Ill.). The lemmings may be distinguished from the arvicolas by the hairy soles, very short tail, long sickle-shaped claws for digging, and small size or absence of the ears; the last lower molar has 4 or 5 triangular prisms alternating with each other. The species are confined to the arctic regions of both hemispheres, and are the most northern form of rodent known; of the North American species none have been found within the United States; they live in the thick mosses and sphagnum swamps in the vicinity of the arctic circle. The Norway lemming (*M. lemmus*, Pall.) has a stout body 5 inches long, a short and broad head, short and robust legs, and coarse bristly hair; the whiskers are in 5 horizontal series; the fore feet are provided with very long, stout, and fossorial claws, the 3d the longest, and the thumb rudimentary; the hind feet short and broad, well armed with claws; the short tail is densely coated with hair. The dentition consists of incisors $\frac{1}{2}$ -, molars $\frac{3}{2}$ -, the skull is massive and broad, the orbits very large, the temporal fossae small, and the zygoma high; the incisors are thick, large, and much rounded anteriorly. The color above is yellowish and reddish with black markings, and yellowish white below. Its natural habitat is the mountainous regions of Lapland and Norway, from which it descends at irregular intervals in immense troops, which devour every green thing in their course, and commit as great devastations as the migratory locusts; it has been supposed that an unusual multiplication of these animals and an actual or anticipated scarcity of food impel them to these migrations. They move chiefly by night or early in the morning, proceeding obstinately in a direct line, swimming rivers, crossing mountains, and permitting nothing but an absolutely insurmountable obstacle to alter their straight course; many are destroyed by fire and water, by each other, and by rapacious beasts and birds. They are

not disposed to live in society, but dwell in a scattered manner in holes in the ground; they lay up no regular provision for the winter's use; they produce 5 or 6 young at a time, and it is said several times a year; the flesh, which tastes like that of the squirrels, is eaten in Lapland. The food consists of plants, seeds, roots, and any vegetable matter that comes in their way.—The best known American species is the Hudson's Bay lemming (*M. torquatus*, Keys. and Blas., or *M. Hudsonius*, Wagner), a circumpolar animal, coming down as far as Labrador and more southward on the Pacific coast. There are no external ears, and the 2 middle claws of the fore feet are remarkably large; the color above is a mixed reddish brown and pale yellow, palest on the sides, beneath whitish, whiskers black, and sometimes with a whitish collar edged with brown on both sides; the color is white in winter, with a few black hairs interspersed. The length is about 5½ inches; the thumb is rudimentary on the fore feet, and the 2 middle toes appear to have double nails, as the callous end projects under the nail. It is an inoffensive animal, living in burrows in the ground or under stones, feeding on roots and similar substances. Back's or the tawny lemming (*M. Obensis*, Brants) is rather smaller, of a brownish yellow mixed with black hairs, brighter on the sides, and rusty below, throat white. It resembles in appearance and probably in habits the Norway lemming, and lives in the high northern latitudes of America, burrowing under the thick mosses of those regions.—For details on the lemmings, see Sir John Richardson's *Fauna Boreali-Americana*.

LEMNOS (now *Stalimni*, *Stalimene*, or *Limni*), a Turkish island in the Grecian archipelago, situated about 40 m. S. E. from the Dardanelles, in lat. 40° N., long. 25° E.; length 22 m., breadth 20 m.; area, about 150 sq. m.; pop. 10,000. Lemnos may be said to have been formed by the union of two peninsulas, the bay of Paradiso N. and that of Sant' Antonio S. almost dividing it into two parts. The surface is in general hilly, and the soil light. A considerable portion of the islanders are engaged in fishing. The capital, Stalimni (anc. *Myrina*), stands on the W. coast, and is the residence of a Greek bishop and of the Turkish governor. According to Pliny, Lemnos once contained a labyrinth sustained by 150 columns, and the gates of which could be opened by a child. This island has been famous from remote antiquity for a species of earth termed *terra Lemnia*, thought by the ancients to possess extraordinary medicinal virtues. In antiquity Lemnos was sacred to Vulcan, whose workshop is placed there by some of the poets. The most ancient inhabitants are said to have been Thracians, who were succeeded by the fabulous Minyæ, and subsequently by Pelasgians. It was conquered by Darius, but delivered by Miltiades, and made an Athenian dependency.

LEMOINE D'IBERVILLE. See **IBERVILLE**.

LEMON (*citrus limonum*, Kisso), a well known

fruit, native of Asia, and long cultivated in various countries, both in the open air and under the protection of glass structures. According to London, 28 varieties are enumerated by Dr. Sickler as growing in Italy; according to Ville Hervé, 11 sorts were known among the French, and 12 sorts in the London nurseries. The varieties of the lemon are to be distinguished chiefly by their size and form, and they may be classified as egg-shaped with blunt nipples, and oblong lemons with large nipples. The most valued of the egg-shaped are the thin-rinded lemons, such as the Poncine, incomparable, Naples, and the sweet lemon; and of the oblong sorts may be mentioned the imperial, the Gaëta, the large fruit, and the wax. There is also a distinct race, which comprehends the *perettes* or little pears; they are very small-fruited, of a pale greenish yellow, and the rind is more delicately perfumed than that of the common lemons. The lemon, like the orange, though commonly seen as a low bush in our greenhouses, grows under congenial circumstances to the size of a respectable tree; even in England instances are on record of large trees of considerable age. In a properly constructed conservatory the lemon grows with great luxuriance, and produces the most delicious fruit, possessing a freshness and grateful acidity not to be found in those that are imported. For beauty few shrubs or trees can rival it, in its large pale-green foliage, in its wide and loosely hanging branches, in the profusion of its showy and highly fragrant flowers, and in its fine fruit hanging in all stages of growth and degrees of ripeness. The leaves of the lemon are liable to become infested with a black sooty substance, arising from a sort of leaf fungus known as the *fumago foliorum* (Link); and when this appears it should be carefully washed off. Several sorts of cocci or scale insects attack the stems and branches, but not more than other hard-wooded plants. Trained to the back wall of the greenhouse, the lemon will grow luxuriantly, and soon become a beautiful object. The use of the fruit is too well known to require further mention. The lemon is readily produced from seeds, but where finer and choicer sorts are needed, they are to be propagated by grafting or budding them upon seedling plants, thus also hastening most materially their production of flowers and fruit. Cuttings also will grow if properly treated in the manner required by similar woody plants. Like the rest of the *citrus* family, the lemon requires a season of temporary repose, when the soil may be kept rather dry and warm. Indeed, according to Dr. Lindley, the temperature of the soil rises to 85° F., and never falls below 58°; in those places where the orange tree is found in perfection; and the lemon must require a similar temperature. It has been observed, especially in pot culture, that a certain sweet substance known as honey-dew, which sometimes exudes from the foliage, originates from over watering, and that this, together with a pale and yellow as-

pect, which the leaves sometimes assume, seems to come from excess of moisture at the roots. The obvious remedy is to keep the plants rather dryer for a time.

LEMON, MARK, an English author, born in London, Nov. 20, 1809. He early entered upon a literary career as a writer for the stage, and has produced, either singly or in copartnership with others, upward of 60 plays, farces, melodramas, and other species of dramatic composition. Of these, the best known probably is the popular play entitled the "Serious Family." Upon the establishment of "Punch" in 1841 he became its joint editor and a regular contributor, and two years later he was appointed sole editor, a position which he has continued to fill down to the present time. In this capacity he has displayed a tact and an abundance of resources which have materially aided in sustaining the literary reputation of the work. He has also been a busy writer for a variety of periodicals, and some of his contributions to the "Illuminated Magazine" have been republished under the title of "Prose and Verse." He is now literary editor of the "Illustrated London News." He possesses considerable ability as an actor, and as a member of the late guild of literature and art has frequently participated in the dramatic performances produced under its auspices.

LE MONNIER, PIERRE CHARLES, a French astronomer, born in Paris, Nov. 23, 1715, died in Héric, near Bayeux, May 31, 1799. The son of a noted savant, he made astronomical observations at the age of 16, and before he was 21 years old he was received into the academy of sciences, having already presented to that body an elaborate map of the moon. In 1736 he accompanied Maupertuis to Tornea for the measurement of a degree in Lapland; and on his return, by introducing superior instruments and the methods of Flamsteed, he caused great improvements in practical astronomy. In 1742 the king gave him apartments at the Capuchins, rue St. Honoré, which he occupied till the revolution. In 1748 he went to Scotland to observe the solar eclipse, which was there almost annular, and succeeded in measuring the diameter of the moon on the disc of the sun. The results of his observations are contained in the memoirs of the academy, to nearly every volume of which he furnished one or more papers for more than 50 years. He also produced various independent works on astronomical subjects.

LEMPIA, a river of San Salvador, and the largest stream of Central America, falling into the Pacific. It rises in the lake of Guija, in the N. W. corner of San Salvador, flows nearly due E. through a broad and fertile valley for a distance of nearly 150 miles, and then, turning abruptly to the S., breaks through the volcanic coast range of mountains, and falls into the Pacific in lat. 13° 12' N., long. 88° 41' W. For a considerable part of its course it is navigable. Mr. Squier crossed it 150 miles above its mouth, where it was a large and rapid stream, 180

yards broad and 10 feet deep. He crossed it also 50 miles above its mouth, where it was 250 yards broad and 15 feet deep. It drains a wide expanse of country, has numerous large tributaries, and as a consequence is subject to sudden floods, at which times the water rises on the lower portions of the stream to from 20 to 35 feet, completely submerging the neighboring country. The mouth of the river, which is broad and open, is obstructed by a bar, with only 6 feet of water; but the *cstero* of Jaltepeque approaches to within a league of the river, with which it is connected by a natural channel, navigable by small boats during the rainy season.

LEMPRIERE, JOHN, D.D., an English classical scholar and author, born in Jersey about 1760, died Feb. 1, 1824. He was educated at Westminster school and at Pembroke college, Oxford, where he was graduated in 1792. He is well known as the author of a *Bibliotheca Classica*, or "Classical Dictionary," first published in 1788 in 8vo., and afterward enlarged to 4to. This, though a work of little original research, was the chief book of reference to the English classical scholar on ancient mythology, biography, and geography until the appearance (1842-'53) of the elaborate dictionaries edited by Dr. William Smith. He also published a "Universal Biography" (4to., London, 1808), and commenced a translation of Herodotus, of which he published one volume in 1792.

LEMUR, the name applied to many animals of the order *quadrumana* or monkeys, of the families *galeopithecida* and *lemurida*, all of the old world. The *galeopithecida* or flying lemurs, elevated into the order *ptenopleura* or *dermoptera* by some authors, evidently form the connecting link between the monkeys and the bats. The single genus *galeopithecus* (Pall.) has, according to Owen, the following dental formula: incisors $\frac{1}{1}$, canines $\frac{1}{1}$, premolars $\frac{2}{2}$, and molars $\frac{3}{3}$; the feet are all 5-toed, without opposable thumbs, united by a small membrane, armed with claws, and adapted for climbing; the body is surrounded by a hairy lateral membrane, extending from the sides of the neck to the base of the feet, embracing the wrists, and continued between the legs, involving the tail as in many bats; this membrane, like that of the flying squirrel, serves as a parachute to sustain the animal in its astonishing leaps from tree to tree. The edges of the lower incisors are serrated like the teeth of a comb; the eyes are large and prominent, the ears moderate; there are 2 pairs of pectoral mammae. They are nocturnal animals, passing the day suspended from trees by the hind legs; they are very active at night, climbing with facility, and springing from tree to tree for a distance of 100 yards; the females carry the young in the fold of abdominal integument, when travelling among the trees; their food consists principally of fruits, insects, small birds, and eggs. Though the name *galeopithecus* signifies cat-monkey, their movements on the ground are rather

awkward. The largest species (*G. variegatus*, Geoffr.) is about the size of a cat, but slimmer; the color varies from light gray to russet, spotted and striped with black and light colors. All the species live in the East Indian archipelago. Though emitting a disagreeable odor, the flesh is considered palatable by the natives.—In the true lemurs (or *prosimia*, as they are sometimes called) the upper incisors are 4, mostly in pairs, separate from the canines, and the lower 4 or 2; the feet are 5-toed, with opposable thumbs on the hind ones, and the 4th finger the longest; the hind feet the longest, with the nail of the 2d finger incurved, the other nails flat. The name *lemur*, which signifies ghost or spectre, was given to them by Linnæus from their nocturnal habits. More than 80 species are known, divided into 5 principal genera, inhabiting chiefly Madagascar, a few living in Africa and the warm regions of Asia and its archipelago. Though classed with the *quadrumana*, they come nearer to the *insectivora* in the 2-horned uterus, the permanent separation of the lower jaw at the symphysis, and the openness of the orbits behind. The head is rounded, and the snout so elongated and pointed that they are often called fox-nosed monkeys; the legs are tolerably long, the eyes large and in the front of the head, the ears small, the fur soft, and the tail generally long and bushy. They are very pretty animals, with habits like those of the preceding family, and are gentle and playful in captivity; a single young one is produced at a birth, which the mother carries about for a long time, concealed in her long hair or coiled round her body, tending it with great care. The largest species is the indri (*lichenotus brevicaudatus*, Illig.), about the size of a large cat, the tail being a mere rudiment; the dental formula is: incisors $\frac{3}{3}$, canines $\frac{1}{1}$, molars $\frac{3}{3}$ = 30; the color is black, with white throat, buttocks, and heels; they are tamed by the natives of Madagascar, and being very agile are trained like dogs for the chase. The long-tailed lemur (*L. longicaudatus*, Geoffr.) has a woolly fur of a ruddy brown color, grayish on the belly; found in the eastern parts of Madagascar.—The genus *lemur* (Linn.) has incisors $\frac{3}{3}$, canines $\frac{1}{1}$, and molars $\frac{3}{3}$ = 36; the eyes are lateral; the tail long and hairy throughout. The ring-tailed lemur (*L. catta*, Linn.) is one of the most elegant species, of a delicate gray color, ruddy on the back, white below and on the cheeks, and the tail ringed with black and white; it is about 19 inches long, of which the tail is 7; it is a gentle and confiding animal, and received its specific name from its occasionally making a sound like the purring of a cat; a common name is *mococo*. The vari (*L. macaco*, Linn.) is varied by large white and black spots. The red lemur (*L. ruber*, Péron) is of a reddish chestnut color, with head, fore hands, tail, and belly black, and a white spot on the nape, being one of the few animals in which the lower parts are darker colored than the upper; it is easily tamed, gentle, agile, but sleepy during the day; the body is about 18

inches, and the tail about 1½ feet long. The mongous (*L. mongos*, Linn.) is olive brown, with black hands and face; the *L. albifrons* (Geoffr.) has a white forehead. The name of mongous is popularly applied to all lemurs of an olive brown color; the term *maki* is also synonymous with *lemur*, most of the species living in Madagascar. The genus *stenops* (Illig.), comprising the slow lemurs, will be noticed under *LORI*, the common name.—The African lemurs or galagos (*otolicnus*, Illig.) have the nails and teeth of the preceding genus, but the tarsi are elongated, the ears large and naked, the eyes large, and the tail long and tufted; they are insectivorous and frugivorous, nocturnal, and as agile as monkeys or squirrels, making great jumps; when sleeping they are said to close the ears like bats; the flesh is eaten by the natives of Senegal. The *O. galago* (Wagn.) is about 7 inches long, and the tail about 9; it is of a grayish color, pale yellow on the legs, and the tail brown. The *O. crassicaudatus* (Wagn.) is as large as a rabbit, inhabiting southeastern Africa. The dwarf lemur (*O. pusillus*, Geoffr.), with more hairy ears, facial whiskers, and broader upper incisors (*microcebus*, Geoffr.), sometimes called the Madagascar rat, is 10 or 11 inches long and 6 inches high; the color is grayish fawn above and white below. In the genus *tarsius* (Storr) there are only 2 lower incisors, and the molars have several acute tubercles like the insectivora; the eyes are very large, the ears ample and somewhat naked, the tarsus much elongated, and the tail much longer than the body and tufted at the tip. The spectral lemur (*T. spectrum*, Geoffr.) is of a grayish brown color, living in the forests of the Indian archipelago, its long tarsi enabling it to leap like a frog; the size is small.—The lemurs are very interesting as supplying transition forms between monkeys, bats, insectivora, and rodents.

LEMURES, or LARVÆ, in Roman mythology, malignant spirits who were thought to haunt the earth by night and to possess great power for evil over the living. They were the spirits of bad men, and were held in much dread, while the lares or souls of the virtuous were supposed to exercise over mankind a kindly influence. According to some writers, however, the term lemures applied to all spectres of the dead, both lares and larvæ. To propitiate the latter, the Romans annually celebrated a festival in the month of May, called the *lemuria* or *lemuralia*.

LENA, a river of eastern Siberia, rising on the W. of Lake Baikal, near Irkutsk. Its direction is at first N. and then E. N. E. until it reaches Yakootsk, about lat. 62° N., long. 129° 44' E., where it resumes a northerly course, and preserves it until it discharges its waters through numerous mouths into the Arctic ocean. Its length is about 2,400 m., and it lies wholly within the Russian dominions. The Vitim, Aldan, and Villooi are its most important tributaries. It discharges a vast volume of water, and at the distance of 800 m. from its mouth is 5 or 6 m. wide. It is navigable

through the greater part of its course, but the surrounding country is bleak and desolate.

LENAPES. See DELAWARES.

LENAAWEE, a S. E. co. of Mich., bordering on Ohio, and drained by Raisin and Macon rivers and several other streams; area, 785 sq. m.; pop. in 1850, 26,872. It has a rolling surface, well wooded in some places, and a fertile soil consisting chiefly of a black sandy loam. Iron ore is found. The productions in 1850 were 399,676 bushels of Indian corn, 815,210 of wheat, 176,627 of oats, 126,089 of potatoes, 25,643 tons of hay, and 187,570 lbs. of wool. There were 17 grist mills, 22 saw mills, 7 iron foundries, 5 newspaper offices, 43 churches, and 8,059 pupils attending public schools. The Michigan southern and northern Indiana railroad passes through Adrian, the capital, which is also the terminus of the Detroit, Monroe, and Adrian, and the Jackson branch railroads.

LENCAS, a tribe of Indians occupying the high plateaus of Otoro and Jutibucat, to the S. W. of the city of Comayagua, Honduras. They speak dialects of a language which seems to have been widely diffused through the central portions of Honduras, and which the Spaniards, following the designation of their Mexican auxiliaries, vaguely denominated Ohontal, a word which signifies simply foreign or barbarous. At present the Lencas occupy the mountain towns of Opatora, Guajiquero, Lauteroque, Jutibucat, Yamalanguira, &c., and number from 35,000 to 40,000. They are industrious, frugal, and thrifty, peaceable but brave, devotedly attached to their mountain homes, and altogether good citizens of the state.

L'ENCLOS, NINON, or ANNÉ DE, a French lady of pleasure, born in Paris, May 15, 1615, died there, Oct. 17, 1705. Her father, a gentleman of Touraine, and a highly accomplished man, educated her in the philosophy of the time, and in fact trained her by precept and example to a life of pleasure. She was skilled in accomplishments, and when an orphan at the age of 15 manifested precocious shrewdness in managing her property, which she so disposed of as to speedily double its value. Being beautiful, witty, and fond of cultivated society, she soon became popular in Paris, where she fixed her residence, her love being sought by many of the most eminent men of the age. She was remarkable for being neither avaricious nor extravagant, and, with a constant succession of lovers, appears to have never depended on them for pecuniary aid. "It required," says Voltaire, "great ingenuity and much love on her part to induce her to accept presents." Few minds of the age were freer from hypocrisy or untruthfulness than Ninon's, and the most characteristic anecdotes in relation to her are those which reflect credit on her integrity. Distinguished and modest women courted her society, and Mme. de Lafayette, Mme. de Sully, and Mme. Scarron (afterward De Maintenon) were among her friends and visitors. Christina of Sweden during her residence in France

was warmly attached to her, and wished her to take a place in her little court, but Ninon preferred independence. She was regarded as a model of refinement and elegance in her manners. Although she led a life of pleasure far into old age, she preserved her beauty and fascination almost to the last, and is said to have had lovers for three generations in the family of Sévigné. In the works of St. Evremond, who was one of her lovers, are some letters by her which are the only authentic pieces from her pen, though *La coquette vengée* (Paris, 1649) and other works are attributed to her. The great Condé, La Rochefoucauld, Coligni, Villars, D'Albret, and D'Estrées were among her most favored admirers, and the most eminent poets sang her charms. She had two sons. One, the chevalier de la Boissière, whose paternity could not be determined, rose to distinction in the navy. The other, who received from his father, the marquis of Gersay, the name of Villiers, was the victim of an unhallowed passion for his mother; he had been reared in ignorance of his birth, and at the age of 19 (his mother being then 56), on learning the secret from her lips while urging his love, he blew out his brains. This event, however, made no change in the life of Ninon, who always seemed dead to the instincts of maternal tenderness.

LENNEP, JAN VAN, a Dutch poet and novelist, born in Amsterdam, March 25, 1802. He is the son of a noted scholar and poet, was educated at Leyden, and has produced his literary works while sustaining a high reputation and a large practice at the bar. He is called by his countrymen the Walter Scott of Holland, and he has been reproached for making the English writers too exclusively his models. His first publication was a collection of poems (1830), embodying some of the national traditions. After the Belgian revolution he produced two political comedies, the "Frontier Village," and the "Village beyond the Frontier," with the greatest success. He is the author of more than 50 romances, among the principal of which are: "Our Ancestors," a series of stories relating to the history of Holland; the "Rose of Dekama," translated into English by Woodley (London, 1847); and the "Adopted Son," translated by Hoakins (New York, 1847). He has translated into the Dutch language several of the dramas of Shakespeare, and some of the poems of Southey and Tennyson. He has written also a history of northern Holland for children, a description of the old castles of Holland, and numerous operas and comedies. He is preparing a complete edition of the Dutch poet Vondel. An elegant edition of his dramatic works was published in Amsterdam in 1852-'5.

LENNOX, a co. of Canada West, bordering on the bay of Quinte on the N. W. shore of Lake Ontario, and drained by Salmon and Napanee rivers; area, 170 sq. m.; pop. in 1851, 7,955. Its S. and S. W. coast is indented by numerous inlets. The surface is diversified, and the soil, resting on beds of limestone, is very fertile.

Indian corn, wheat, oats, rye, buckwheat, potatoes, and peas are the chief productions. Capital, Kingston.

LENNOX. See DUMFRIES.

LENNOX, CHARLOTTE, an English authoress, born in the city of New York in 1720, died in England, Jan. 4, 1804. Her father, Col. Ramsay, who was lieutenant-governor of the colony of New York at the time of her birth, sent her to be educated in England, where she passed the remainder of her life. She married, and, having become a widow in straitened circumstances, was obliged to resort to her pen for the means of subsistence. Her chief work, entitled "Shakespeare Illustrated" (8 vols. 12mo.), is a collection of the novels and histories from which Shakespeare is supposed to have derived the plots of some of his chief plays, with critical remarks. Among her other works are translations of "Sully's Memoirs" and "Binney's Greek Theatre," "The Female Quixote" and a variety of plays, novels, and miscellanies. She enjoyed the friendship of Dr. Johnson and Richardson, the former of whom ranked her as equal if not superior in talent to Miss Burney or Hannah More, and assisted her in drawing up proposals for an edition of her works in 8 vols. 4to., which however seems never to have been published. She died impoverished.

LENOIR, an E. co. of N. C., traversed by Neuse river; area, 390 sq. m.; pop. in 1850, 7,828, of whom 4,116 were slaves. The surface is undulating, and the soil very fertile near the streams. The productions in 1850 were 822,584 bushels of Indian corn, 92,548 of sweet potatoes, and 185 bales of cotton. There were 18 tar and turpentine factories, 28 grist mills, 11 saw mills, 14 churches, and 200 pupils attending public schools. The North Carolina railroad passes through the county. Capital, Kingston.

LENORMAND, MARIE ANNE ADELAÏDE, a famous French fortune-teller, born in Alençon, May 27, 1772, died in Paris, June 25, 1843. She was of a respectable family, but owing to the death of her father received a very incomplete education, and was for some time a seamstress. At the age of 21 she went to Paris, and entered a linen shop as saleswoman. In 1798 she formed a partnership with a Mme. Gilbert and a baker's boy named Flammermont for the purpose of carrying on the trade of fortune-telling. Having been complained of to the police, Mlle. Lenormand was arrested and imprisoned for several months. After obtaining her freedom she opened in the rue Honoré-Chevalier a "cabinet of divination," which she subsequently removed to the rue de Tournon. Her popularity was remarkable; during 40 years she was constantly visited by persons of all ranks. The court itself contributed much to bring her into vogue, and her ignorance and commonplace manner of divining did not injure her credit in the least. After the fall of the empire Mlle. Lenormand went to Aix la Chapelle, to the congress of the allied sovereigns, where she attracted much at-

tention, especially from the emperor Alexander. She was arrested in 1809 in consequence of "indiscreet revelations," and again in 1821 for some political offence contained in a book published by her under the title of *La sibylle au congrès d'Aix la Chapelle*. About 1830 she sank into obscurity, and finally died at the age of 71, after predicting in one of her books that she should live to the age of 125. She became rich by her calling. She published during her life many pamphlets, and a few books, of no value with the exception of her *Souvenirs de la Belgique, cent jours d'infortune* (1822), and the *Mémoires historiques et secrets de l'impératrice Joséphine*, &c. (8 vols. 8vo., Paris, 1829).

LENOX, the shire town of Berkshire co., Mass., on the Housatonic river, 6 m. S. from Pittsfield, and 157 m. W. from Boston; pop. in 1855, 1,921. The town abounds in marble of excellent quality, which has been employed in the construction of public buildings in Washington and elsewhere, and also in iron ore. At Lenox Furnace are extensive iron works, and a manufactory of window glass. The village of Lenox is situated on the summit of a range of hills, has a number of elegant dwelling houses, 3 churches (Congregational, Episcopal, and Methodist), an academy, a court house, county house, and gaol. In beauty of natural scenery Lenox is not surpassed by any town in western Massachusetts, and has of late years become a favorite summer resort. It has at different times been the residence of well known American authors, including Dr. William E. Channing, Miss Catharine M. Sedgwick, and Nathaniel Hawthorne. It was settled in 1750, and incorporated in 1767, receiving the family name of the duke of Richmond.

LENS (Lat., a lentil), a transparent body used for refracting light. A convex lens is usually of the form of two segments of spheres, united by their bases; a concave lens, on the contrary, has a concavity on either side, into which part of a sphere will fit. Concave lenses are used in spectacles for the relief of near-sighted persons, and in the eyepiece of opera glasses and spy glasses of low power. Convex lenses are used singly as magnifiers. They cause the rays of light which pass through them to converge toward the central line, at right angles to their surfaces; so that to an eye in the right position, rays from different parts of an object make a greater angle than if they had not come through the lens. Convex lenses are also used in combination in telescopes and microscopes, in which the image formed by one lens is looked at under the magnifying power of a second. The image is formed by a convex lens, by means of its power to make the rays of light converge, which brings all the light that emanated from each point of the object again to a point in the air on the opposite of the lens. These points of the image have nearly the same relative position as the corresponding points in the object, and may be rendered visible by being received upon smoke or vapor, or, as in the camera obscura

and magic lantern, upon a sheet. The image in the clear air can be seen by an eye placed in a line prolonged from the object through the image. If the image be formed by a single convex lens, it will, on being magnified, be found to have two principal imperfections, arising from spherical and from chromatic aberration. Spherical aberration arises from the fact that a lens whose surfaces are portions of a sphere cannot bring the rays of light from a point, a fixed star for example, to a perfect point. The true surface for an aplanatic (Gr. *ἀπλανής*, unerring) lens is formed by hand polishing with rouge; but this labor is rendered less by making the surfaces of the two sides parts of different spheres, having the right proportion to each other. Chromatic aberration arises from the fact that the lens decomposes the light, refracting the different colors unequally, so that if it were aplanatic for each color, it would form a series of images, one behind the other, neither of which could be seen, except as surrounded by a fringe of complementary color. To remedy this defect, a concave lens is employed. If this were of the same kind of glass, it would diminish the magnifying power in the same proportion that it diminished the chromatic effect. But by taking a different kind of glass, having a greater power of separating colors than the convex lens has, a compound achromatic lens is formed, having a greater focal length than the convex lens; that is, the concave lens neutralizes only part of the magnifying, but nearly all of the chromatic effect of the convex lens. The word aplanatic has been also applied to various other varieties of lenses.

LENT (Lat. *Quadragesima*), a fast of 40 days, which immediately precedes Easter. The origin of the word is uncertain; some derive it from the Saxon *lencen*, implying spring, or the season when the days "lengthen;" others from the German *leinen*, to thaw. The object of the fast has also been disputed, but it is generally regarded as a preparation for Easter, and a time specially set apart for repentance over the sins of the past year; while the number of 40 days devoted to it is thought to have reference to the Saviour's 40 days' fast in the wilderness, to the 40 days of the deluge, the 40 years' wanderings of the Jews, the 40 days granted to the Ninevites for repentance, or the time spent in fasting by Moses and Elias. St. Jerome speaks of the fast as a memorial of the Saviour's passion. According to the same writer, as well as St. Leo, St. Augustine, and most of the fathers of the 4th and 5th centuries, it was instituted by the apostles, although Protestants commonly hold that it was not established until the 2d or 3d century. It seems to have been made obligatory at least as early as A. D. 250. At first there was great diversity in the time and manner of its observance. Its duration was soon fixed by the church at 86 days, to which 4 were subsequently added. The first day of Lent is called Ash Wednesday, from a custom which still prevails in the Roman Catholic

church of sprinkling the head or forehead with ashes. (See ASH WEDNESDAY.) It is the 46th day before Easter, the 6 Sundays which intervene between it and that festival not being counted as part of Lent nor observed as fast days. In the Roman Catholic church the nature of the fast is prescribed by rule. Only one meal a day is allowed, and at this the use of flesh meat is prohibited, the precept of fasting always implying that of abstinence from flesh. A slight refection, however, may be taken morning and evening, the quantity of food not to exceed 2 ounces in the former case, and 8 ounces in the latter. But considerable modifications of these rules are made in countries where the climate or habits of the people render their observance injurious to health, and dispensations are also frequently granted in favor of particular persons. In the United States the use of flesh meat is allowed several times a week at the discretion of the bishops. In the Greek church the rules are stricter, and there are 4 lenten fasts in the year. The Protestant denominations which recognize the season of Lent leave the manner of observance to individual judgment. —A curious old English custom followed in Lent was that of pelting a puppet called a Jack o' Lent, the origin of which is not explained. Ben Jonson alludes to it in his "Tale of a Tub":

—on an Ash Wednesday,
When thou didst stand six weeks the Jack o' Lent
For boys to hurl three throws a penny at thee.

In a ballad called "Lenton Stuff," found in a MS. in the Ashmolean museum, occur the following verses:

Then Jake à Lent comes justyng in,
With the hedpees of a berryng,
And saythe, repent yowe of yower syn,
For shame, syra, love yower sweryng:
And to Palme Sunday doethe he ryde,
With sprots and berryngs by hys syde,
And makes an end of Lenton tyde!

The 4th Sunday of Lent is often termed Mid-Lent Sunday or Passion Sunday; it was formerly known as "Carl Sunday," and on that day beans or peas called "carlings" used to be given away or eaten. Thus an English translator (1607) gives the following passage from the *Quadragesimale Spirituale* (Paris, 1665): "After the sallad (eaten in Lent at the first service) we eat fried beanes, by which we understand confession. When we would have beanes well sooden, we lay them in steeps, for otherwise they will never seeth kindly. Therefore, if we purpose to mend our faults, it is not sufficient barely to confess them at all adventure, but we must let our confession lie in steeps in the water of meditation." In his "Oolin Clout" Skelton writes:

—In holy Lenton Season,
Ye will neither Beanes nor Peason,
But ye look to be let loose
To a pigge or to a goose.

Lent is preceded in some countries by the dissipation of the carnival. (See CARNIVAL.) The day before Ash Wednesday is called Shrove Tuesday, because the faithful used then to con-

fess and be shriven, in preparation for the fast. (See HOLY WEEK, and GOOD FRIDAY.)

LENTIL (Lat. *lens*), an esculent seed belonging to a plant (*crucium lens*, Linn.) of the natural order *leguminosae* or pea family, and used for food from the earliest times. It is mentioned in Gen. xxv. 84, and in other parts of the Old Testament. The lentils of Egypt used to be held in much esteem. It was a preparation of this diet which Esau exchanged for his birth-right, under the name of "red pottage;" and according to Dr. Shaw, in his "Travels in Barbary," the lentils were dressed in the same manner as beans, dissolving into a mass and making a pottage of a chocolate color. In Egypt and Syria the parched seeds are exposed for sale in the shops, and they are esteemed the best food to carry upon long journeys. On the continent of Europe its use is very common, especially by the Roman Catholics during Lent. In France and Italy there are at least 8 varieties known in agriculture. Large quantities of lentils are imported into London from Hamburg to be used as an ingredient in soups and sauces, being much prized by cooks. The cultivation of the lentil is very similar to that of the pea, requiring a dry, warm, sandy soil; and though ripening sooner it must be sown later, and at the rate of about a bushel and a half to the acre. The straw is considered delicate and nutritious, and is fed to lambs and calves. Like other legumes, the lentil contains a great amount of nutriment, Einhoff finding in 8,840 parts 1,260 of starch and 1,438 of matter analogous to animal matter. The lentil is seldom seen in American cultivation, and would probably be found inferior to many sorts of garden and field beans (species of *phaseolus*), which our hot summers permit us to raise.

LENTULUS, the name of a patrician family, long prominent in ancient Roman history. —PUBLIUS LENTULUS SURA (killed Dec. 5, 63 B. C.), the chief associate of Catiline, was quaestor in 81, prætor in 75, consul in 71, and in the following year was ejected from the senate for his infamous life. Joining the conspiracy of Catiline, he became prætor again in 68, was left in command of the conspirators in the city when Catiline departed to Etruria, was detected and proved guilty by Cicero through the Allobroges, and was strangled in the Capitoline prison.

LEO, the name of 12 popes, of whom the following are the most important. I. LEO I., saint, surnamed the Great, born in Rome about 890, died April 11, 461. He succeeded Sixtus III. in 440, and marked his accession to the pontificate by several important reforms. He extended to subdeacons the obligation of celibacy, enacted penal laws against married monks, and procured from the emperor Valentinian III. an edict confirming all the previous ordinances passed against the Manichæans. His energetic measures toward these heretics were followed by similar contests with the Pelagians and Priscillianists, and with the famous Eutyches, whose opinions were condemned by the council of

Chalcedon in 451, at which the legates of Pope Leo presided. In the mean time Attila the Hun had invaded Italy and dispersed the emperor's legions, and was rapidly drawing near Rome, when Leo, at the request of the senate, went out to meet him. Struck with awe at the venerable aspect of the pontiff, or according to the legend terrified by an apparition of St. Peter and St. Paul, the barbarian yielded to Leo's prayers and agreed to retire beyond the Danube. When, 8 years afterward (455), Genseric led his Vandals into Italy, the pope again became a mediator, and wrung from the conqueror a promise that Rome should be spared from the flames and the lives of its inhabitants preserved. The rest of Leo's pontificate was passed in the peaceful prosecution of those ecclesiastical reforms which have won for him the surname of Great. He was a voluminous writer, and the first pope whose letters have been preserved to our time. They may be found in the collection of Labbe, and have also been published separately under various titles. II. LEO X. (GIOVANNI DE' MEDICI), born in Florence, Dec. 11, 1475, died in Rome, Dec. 1, 1521. He was the second son of Lorenzo de' Medici, surnamed the Magnificent, and of his wife Clarice Orsino. His father destined him from childhood for the church, and made such use of his influence that Giovanni was in possession of two benefices before he was 8 years old, and was made a cardinal at the age of 18, under condition however that he should not enter the sacred college nor assume the insignia of his rank for the space of 3 years. He had already laid the foundation of a liberal education under the tutorship of Politian, Demetrius Chalcondyles, and Bernardo da Bibbiena, and now repaired to Pisa to study theology and canon law. In March, 1492, having been invested with his dignity as a prince of the church, he removed to Rome. Within 8 weeks he was summoned back to Florence by the death of his father. The young cardinal proved a worthy successor of Lorenzo in the patronage of men of learning, and his tutor Chalcondyles was one of the first to experience his liberality. On the accession of Alexander VI. to the pontificate in the same year, he deemed it prudent again to retire from Rome, and spent the two following years at Florence; but the indignation of his townsmen at the part played by the Medici on the invasion of Italy by Charles VIII. of France, obliged him in 1494 to escape to Bologna, whence, after sharing with his brothers in 8 unsuccessful attempts to restore his family to their ancient place, he made a tour with 11 companions through Germany, Flanders, and France. Under Pope Julius II., who came to the throne in 1503, he was appointed to the chief direction of the papal troops in the war with the French in Italy, and was taken prisoner at the battle of Ravenna, April 11, 1512, but soon afterward made his escape. On the death of Julius II. in Feb. 1513, he returned to Rome, and on March 11 was elected pope, taking the name of

Leo X. He had yet received only deacon's orders; he was raised to the priesthood March 15, consecrated bishop on the 17th, and crowned on the 19th. He began his pontificate by pardoning the authors of a conspiracy against his family in Florence, and showing particular favor to certain persons who had been among the enemies of the Medici. He appointed as his secretaries the scholars Bembo and Sadoleti, who had only their merit to recommend them, and the flattering prospects of his reign at once drew to Rome a multitude of men of letters and science, in his patronage of whom consists his best title to greatness. He was not long in unveiling the main features of his policy. To compose the mutual dissensions of the Christian princes and unite them against the Turks, and to drive from Italy the French and Spaniards who, masters or claimants of its N. and S. extremities, kept the central states in continual warfare, were the principal objects of his reign. At his accession the French king Louis XII., in alliance with the Venetians, was preparing to enforce his pretensions to the duchy of Milan. The pope entered into a confederacy with Henry VIII. of England, the emperor Maximilian, and Ferdinand of Aragon, and enlisted a force of Swiss mercenaries, who defeated the invaders at Novara, June 6, 1513. The French monarch was forced to abandon his claims and seek a reconciliation with the holy see, and in the following year he made a secret treaty with Leo by which he engaged to favor the papal designs for expelling the Spaniards from Naples. In return the pontiff relaxed for a time his opposition to the Milan project; and although on the renewal of the war by Louis' successor Francis I. he again brought his troops into the field, he acted mostly on the defensive, and after the famous French victory of Melegnano (Marignano), Sept. 15, 1515, and the subsequent occupation of Milan, proposed an accommodation. He had a personal interview with the king at Bologna, at which were arranged the terms of a concordat whereby the "pragmatic sanction," guaranteeing the liberties of the Gallican church, was abolished, the payment of annates secured to the pope, and the right of nomination to benefices reserved by the king. The holy see, however, was obliged to give up the cities of Parma and Piacenza. At peace with foreign powers, Leo had now leisure to attend to the advancement of his family. The duke of Urbino, who, beside violating his feudal obligations, had been guilty of the murder of the cardinal of Pavia with his own hand, was summoned to appear at Rome, and failing to obey was excommunicated (1516) and stripped of his possessions, with which the pope's nephew Lorenzo de' Medici was immediately invested. On Lorenzo's death without male heirs soon afterward, the duchy was annexed to the Papal States. Meanwhile a conspiracy against the pontiff's life was detected in the sacred college, and a cardinal and two subordinate confederates were executed. Scarcely had Leo passed this danger to his per-

son when his spiritual supremacy was attacked by the great religious revolution under Luther. For a particular account of this movement, see LUTHER, and REFORMATION; its immediate occasion was the publication by the pope of an indulgence to all persons who, among other conditions, should contribute money for the completion of the church of St. Peter at Rome, an object which had occupied his attention during his whole pontificate. The conduct of Leo toward Luther has not received the general commendation of either party. The Protestants blame his obstinate refusal of plans for a peaceful settlement of disputed points, and he has been charged by some Catholic writers with a leniency but for which the reformation might have been checked at the outset. He found fresh cause for anxiety in the menacing attitude of the Turks, against whom he endeavored to form a general offensive league, but succeeded only in bringing about a defensive one (1518). In furtherance of this league he published a general truce for 5 years throughout Christendom, threatening with excommunication any sovereign who should break it. Nevertheless he seized Perugia and other small Italian states, made an attempt on Ferrara, prosecuted his plans against Naples, and renewed his efforts against the French, whom he expelled from Milan, Parma, and Piacenza. Eight days after receiving intelligence of these successes he died so suddenly that he is said not to have received the last sacraments of the church. A post-mortem examination is said to have revealed traces of poison, how or by whom administered was never ascertained. The character of Leo has been judged with more prejudice and discrepancy than that of almost any other person known in history. He has been accused of political insincerity, of adding treachery to injustice in his annexation of neighboring states, of an inordinate anxiety for the aggrandizement of his family, and of many failings which, however readily pardoned in a great prince, become odious in a Christian priest. But whatever estimate we form of his character, due allowance must be made for the violent spirit of partisanship in which the contemporary biographies of him were written. While his foreign policy was liberal and enlightened, he governed his own subjects with wisdom and justice, and his reign was long gratefully remembered by the Romans as an era of happiness and prosperity. Engaging and affable in manners, gay or dignified as occasion demanded, and gifted with great powers of conversation, he charmed all with whom he came in contact. His private life both before and after his elevation to the throne was chaste and decorous. He was generous to excess, magnificent in his tastes, passionately fond of the chase, but temperate in the pleasures of the table. Though not a profound scholar, and accused, but apparently with injustice, of neglecting the studies best fitted to his station, he was well versed in the lighter branches of literature and a proficient in the art of music. He delighted above all things

in the society of artists, poets, and learned men. He corresponded with Erasmus; patronized Ariosto and Sanazzaro; founded the Greek institute; established a Greek press; offered rewards for the discovery of ancient manuscripts; published at his own cost Pagnini's version of the Scriptures; increased the Vatican library; and employed Michel Angelo and Raphael in the execution of some of their greatest works. His munificence might well entitle the reign of Leo X. to rank as the golden age of Italian art and letters. "Happy is it for the world," says Roscoe, "when the pursuits of such individuals, instead of being devoted, through blind ambition, to the subjugation or destruction of the human race, are directed toward those beneficent and generous ends, which, amid all his avocations, Leo the Tenth appears to have kept continually in view." See Audin, *Histoire de Léon X.* (2 vols. 8vo., Paris, 1844), and Roscoe's "Life and Pontificate of Leo X." (6th ed. revised, 2 vols. 8vo., London, 1858). III. LEO XII. (ANNIBALE DELLA GENGA), born in the territory of Spoletto, Aug. 2, 1760, died Feb. 10, 1829. Before his elevation to the pontificate he was papal nuncio at several German courts, and was sent to France on a special mission by Pius VII., whom he succeeded in the papacy Sept. 27, 1823. He governed the church with a firmness which involved him in disputes with France and Austria, and administered the affairs of his temporal dominions to the great benefit and satisfaction of his subjects. He exerted himself to suppress brigandage and mendicancy, promote education and literature, and suppress secret societies. He published a jubilee for the year 1825, and in a circular letter to the Christian nations warmly attacked Bible societies. He was succeeded by Pius VIII.

LEO I., FLAVIUS, surnamed the Thracian, and the Great, a Byzantine emperor, born in the country of the Bessi, in Thrace, about A. D. 400, died in Jan. 474. At the death of Marcian in 457 he was only a military tribune; but being proclaimed emperor by the soldiers, the choice was confirmed by the senate, and he was crowned by the patriarch Anatolius, this being the first instance of a prince receiving his crown from the hands of a bishop. He continued the measures of his predecessor against the Eutychians in Alexandria, successfully encountering the opposition of his minister, the Arian chief Aspar, by whose influence he had been raised to the throne. In 466 the Huns invaded Dacia and threatened the eastern empire, but were defeated by the generals of Leo, their principal chief Dengizac, a son of Attila, being killed. In 468 he concerted with Anthemius, the emperor of the West, an expedition against Genseric, king of the Vandals in Africa. Under the command of Basiliscus more than 1,000 ships, each with 100 men, came to land near Carthage, but were attacked by night with fire ships, and the whole fleet was destroyed or dispersed. This disastrous result was charged upon Aspar, who with one of his sons escaped from a popular

tumult only to be assassinated by a band of the emperor's body guard within the precincts of the palace. The Arian followers of Aspar encouraged the intrigues of Ricimer in the West, and incited the Goths to invade Thrace, and for two years to threaten Constantinople. Among the extraordinary events of this reign were the destruction of Antioch by an earthquake (458), a conflagration in Constantinople (466), immense and destructive inundations (469), and an eruption of Vesuvius (572), which, according to all the historians, was not only felt at Constantinople, but caused showers of ashes which covered the roofs of houses with a coat 3 inches thick.

LEO III., FLAVIUS, surnamed the Isaurian, a Byzantine emperor, born in Isauria about 680, raised to the throne in 717, died June 18, 741. The son of a farmer who emigrated from Asia Minor to Thrace, he joined the army under Justinian II., was rapidly promoted, and in 718 was appointed by Anastasius II. to the supreme command of the troops in Asia, where he held the field against the Arabs. When in 716 the crown was seized by Theodosius III., Leo declared him a usurper, outwitted and avoided the Arab general Muslima, marched upon Constantinople, forced him to resign (March, 717), and became himself master of the empire. The Saracens, against whom he had warred in Asia, and who were ardent to revenge the trick by which he had foiled them, immediately appeared under the caliph Solyman with an immense army and fleet before Constantinople. This siege, the third by the Saracens, lasted two years (718-720), successively under Solyman and Omar II.; and so powerful were the Mohammedan armaments that the provinces expected the downfall of Leo, the western kingdoms heard that a caliph had ascended the Byzantine throne, and two schemes of rebellion were plotted, which were quickly suppressed when the triumph of the emperor was known. The Arab fleet was routed in two engagements, was partially consumed by the Greek fire, and few of the ships regained the harbors of Syria. In 726 Leo promulgated an edict for the removal of images from all the churches of the empire, in order perhaps to make Jews and Mohammedans more favorably inclined to Christian worship, and thus inaugurated the party of the iconoclasts, and a conflict of 120 years. He was opposed by Germanus, patriarch of Constantinople, John the Damascene, and John Ohrysorrhoeas in the East, and by Popes Gregory II. and III. in the West. The iconoclasts were condemned by a council assembled at Rome in 732; an expedition sent by the emperor into Italy (734) to reduce the cities opposed to the edict failed in its object, and the exarchate of Ravenna was transferred from the Greeks to the Lombards. In the East, there was a rebellion in the Peloponnesus and the Cyclades, and a revolt in the capital, the latter of which was quelled only after much bloodshed. The numerous professors in the schools of Constantinople favored the use of images, and the emperor is said to have therefore ordered

the library of St. Sophia to be burned. It is more probable that this library of 36,000 volumes was accidentally destroyed in some conflagration. After the check which his forces experienced in Italy, he transferred Greece and Illyria from the spiritual authority of the popes to that of the patriarchs of Constantinople. The latter years of his reign were occupied with violent wars with the Arabs. An adventurer, who claimed to be Tiberius, a son of Justinian II., was supported by the caliph, and made his entry into Jerusalem in the garb of a Roman emperor. In 739 the Arab general Solymán invaded the Roman territories with 90,000 men, in 3 divisions, but retreated into Syria after the defeat of one of the bodies in a pitched battle in Phrygia. In 740 an earthquake caused calamities throughout the empire, demolishing a part of the walls of Constantinople, and destroying whole towns in Thrace and in Egypt.

LEO V., FLAVIUS, surnamed the Armenian, a Byzantine emperor, reigned from 813 to 820. He was of noble Armenian descent, distinguished himself as a general under Nicephorus I. (802-811), was exiled for treachery, but soon recalled by Michael I., and appointed commander of the troops in Asia. Michael was chiefly unpopular as the husband of the masculine and presuming Procopia, and his downfall and the elevation of Leo had been foretold by an Asiatic prophetess. In 813 Leo and the emperor led an expedition against the Bulgarians, and were defeated in a battle near Adrianople. Michael withdrew to Constantinople, leaving a disaffected army under the command of Leo, who was the secret cause of the defeat, and whose friends now persuaded the soldiers to proclaim him emperor. The rebel army marched toward the capital, and to avoid civil war Michael resigned to the conspirators the keys of the city and the palace, and retired to a convent. The Bulgarians immediately appeared before Constantinople, desolated its suburbs, captured Adrianople, and reduced Thrace to a desert, but suffered a terrible defeat by Leo at Mesembria in 814. In 815 he invaded their territory, obtained a truce for 30 years, and by his fierce onsets left such an impression on these hereditary enemies of the Byzantine empire that they remained quiet during 74 years. Educated in a camp, he reformed the civil government by introducing into it the strictness of military discipline, and his incessant oversight and formidable punishments improved the administration both in the capital and the provinces. He protected the iconoclasts, and his severity against the advocates of images created numerous enemies. Michael the Stammerer had contributed largely to his elevation, and had been his staunch adherent, but after repeated warnings was found guilty of treason, and was sentenced to death. On the day appointed for his execution a band of priests and chanters was admitted into the palatial chapel to sing matins. A body of conspirators, friends of Michael, mingled with this procession, in the ecclesiastical habit, with

swords under their robes, and at a given signal they rushed upon the emperor, who perished at the altar, after bravely defending himself with the great cross.

LEO VI., FLAVIUS, surnamed the Philosopher, a Byzantine emperor, born in 865, ascended the throne in 886, died in 911. He was associated with his father Basil I. in the government two years before he succeeded him. Narrowly escaping from a false accusation of parricide made by the minister Santabaren and the patriarch Photius, he began his reign by banishing one of them and deposing the other. From 887 to 891 he warred against the Saracens in Asia Minor and Italy. The mismanagement of the prime minister Stylianus, who disregarded the privileges of Bulgarian merchants, occasioned a severe war with that people, which Leo terminated in 894 by involving the Bulgarians by means of intrigues in hostilities with the Hungarians. The inactivity of the emperor exposed him to a series of conspiracies, and invited new attacks by the Saracens, who in 904 captured and plundered Thessalonica. In 911 they defeated the Greek fleet near Samos. Leo combined the legislative and executive powers in his own person, and extinguished the last remains of the authority of the senate. He was excluded from the communion of the faithful on account of his fourth nuptials, the Greek church tolerating only a second marriage. His title of Philosopher he received for having written several works on theological and profane subjects. The "Basilics," or imperial constitutions, being a Greek translation and revision of Justinian's *Corpus Juris*, with the addition of subsequent constitutions, were begun under Basil I., and completed under Leo and Constantine Porphyrogenitus. The principal writings attributed to Leo are 88 orations, chiefly on theological subjects, an important treatise on military tactics, and a work on "Oracles," in which the fates of the empire are foretold by the arts of astrology and divination.

LEO, HEINRICH, a German historian, born in Rudolstadt, March 19, 1799. He was educated at Breslau and Jena, and had begun special researches into the history of the middle ages before receiving the degree of doctor of philosophy in 1820. In 1822 he went to Berlin, where he was an enthusiastic disciple of Hegel. In 1824 he published a remarkable work on the constitution of the Lombard cities. In 1828 he was elected to the professorship of history in the university of Halle, which he still holds. In later life he opposed Hegelianism and political liberalism with the same vigor and zeal that he had displayed as a young man in their defence. Among his more important historical works are: *Handbuch der Geschichte des Mittelalters* (1830); *Geschichte der Italienischen Staaten* (5 vols., 1829-'30); and a work on the history of the Netherlands (2 vols., 1832-'35). His principal controversial writings against liberal tendencies are: *Herr Dr. Diesterweg und die Deutschen Universitäten* (1836); *Sendschreiben an Görres* (1838); and *Die Hegelingen* (1838),

which caused a lively discussion. He has also written a treatise on the natural history of the state (1838), a manual of universal history (6 vols., 1835-'44), several works pertaining to the antiquities and language of the Germans, as *Beowulf* (1839) and *Die Malbergische Glossen* (1842-'5), and *Die Ferienschriften*, containing studies on Celtic antiquities.

LEO AFRICANUS. See AFRICANUS.

LEO ALLATIUS. See ALLATIUS.

LEOBEN, a town of Austria, in the province of Styria, on the Mur; pop. about 2,600. The inhabitants are mostly engaged in mining and forging iron. The preliminary treaty between the French republic and Austria, which terminated Napoleon's 2d Italian campaign, and was followed by the peace of Campo Formio, was concluded here, April 18, 1797.

LEOCHARES, an Athenian sculptor, who flourished about the middle of the 4th century B. C. He was one of the artists employed by Artemisia of Caria on the tomb of her husband Mausolus. He was also one of those engaged by Philip of Macedon to execute memorials of his victory at Chæronea; but his *chef d'œuvre* was his bronze statue of the "Abduction of Ganymede by the Bird of Jove," of which the best extant copy is at Rome. His statue of "Zeus Ceraunius" was also very celebrated.

LEON. I. A N. co. of Fla., bordering on Ga., and bounded W. by Ocklockonnee river; area, 700 sq. m.; pop. in 1850, 11,442, of whom 8,208 were slaves, since which its limits have been reduced. It has an undulating surface and productive soil. The productions in 1850 were 83,232 lbs. of rice, 178 hhds. of sugar, 16,107 bales of cotton, and 1,792 galls. of molasses. There were 8 grist mills, 5 saw mills, and 19 churches. Capital, Tallahassee. II. A central co. of Texas, bounded E. by the Trinity and W. by the Navasoto river; area, 1,100 sq. m.; pop. in 1850, 1,946, of whom 621 were slaves. The soil on the uplands is a sandy loam, and in the bottoms a rich black loam producing an average of 800 lbs. of cotton to the acre. The productions in 1850 were 66,545 bushels of Indian corn, 18,039 of sweet potatoes, and 913 bales of cotton. Capital, Leona.

LEON, a city of the republic and capital of the ancient province of Nicaragua; pop. 85,000. It is situated nearly in the centre of the plain of Leon, about midway between Lake Managua and the Pacific ocean, in lat. 12° 25' N., long. 86° 57' W. Next to Guatemala it is the largest and most important city in all Central America. It was founded in 1523 by Hernandez de Cordova on the N. W. shore of Lake Managua, at a point called Moabita, whence it was removed to its present site, on that of the aboriginal town of Subtiaba, in 1610. On the N. and S. sides of the city are deep ravines, in which are a multitude of springs, forming perennial streams, whence the people draw their principal supply of water. The large *barrio* or ward of Guadalupe is situated to the S. of the city proper, the intervening ravine being spanned

by a high and substantial bridge. During the contests between the aristocratic and republican parties which followed the declaration of independence from Spain in 1828, a large part of the city, including its richest portion, was destroyed by fire. Over 1,000 buildings were burned in a single night, and there are entire squares of ruins that were once palaces. Whole streets, now almost deserted and overgrown with weeds and bushes, are lined with the remains of large and beautiful edifices. Like all other Spanish cities, Leon covers a large area of ground. It is regularly laid out, with squares or *plazas* in each ecclesiastical or municipal district. The houses are rarely of more than one story, but generally have high arched entrances, above which were anciently engraved the arms of the proprietor. The public edifices are among the finest in Spanish America, and the great cathedral of St. Peter ranks second to no similar structure on the continent. It covers an entire square, is of solid masonry throughout, was 87 years in building, was finished in 1743, and is said to have cost \$5,000,000. Its roof is of masonry, supported on massive arches. It is sometimes used as a fortress, and in 1823 30 pieces of artillery were mounted on its roof. Beside the cathedral, Leon has 16 churches, of which La Merced, Recolecton, and Calvario are remarkable for their size and fine façades. There are 2 hospitals and a university, the Tridentine college of San Ramon, founded in 1675. It was once very flourishing, and had numerous students, with professorships of law and medicine. The city is well paved, and on the whole clean, well ventilated, and salubrious. It is the actual seat of the government of the republic, and the president and his cabinet reside here, although the legislature meets in the city of Managua, which is nominally the capital. The view around Leon is one of the finest and most extensive in the world. Not fewer than 18 volcanoes are visible from the roof of the cathedral, comprising the entire volcanic range of the Marabios. Altogether Leon and the surrounding country fully justify the eulogium of the old friar Thomas Gage, who wrote in 1665: "It is very curiously built, for the chief delight of the inhabitants is in their houses, in their gardens, and in the abundance of all things for the life of man; and it is especially from the pleasure of this city that the province of Nicaragua is called Mahomet's paradise."

LEON, an old province of Spain, formerly a kingdom, and now subdivided into the provinces of Leon, Palencia, Zamora, Valladolid, and Salamanca, bounded N. by Asturias, E. by Old Castile, S. by Estremadura, and W. by Portugal and Galicia; area, about 20,000 sq. m.; pop. in 1857, 897,468; pop. of the modern province of Leon, 854,295. The principal rivers are the Douro and its tributaries, with the exception of a small portion in the N. W. part, which is watered by tributaries of the Minho. Several spurs of the Pyrénées extend into the N. part of the province, and at its N. W. angle is the district

of Vierzo, about 40 m. in length and 80 m. in width, which is enclosed by an amphitheatre of mountains. The climate is mild in spring, hot in summer, and excessively cold in winter. Agriculture is very backward, although the wide plains in the central part of the province produce abundance of grain. Leon was anciently a part of the Roman province of *Tarraconensis*. After the destruction of the Gothic monarchy by the Arabs the foundations of the kingdom of Leon were laid by Pelayo, or Pelains, though Ordenno II. was the first who assumed the title of king. In the 11th century it was united to Castile, and after a temporary separation was finally annexed to the Castilian monarchy in 1218.—LEON, the capital, is pleasantly situated at the junction of the Torio with the Bernesga; pop. about 6,000. Interiorly it is a gloomy and decayed town. Its cathedral, with a lofty spire, was originally one of the most beautiful Gothic edifices in Europe, and still retains much of its splendor.

LEON, PONCE DE. See PONCE DE LEON.

LEONARDO DA PISA. See BONAOC.

LEONARDO DA VINCI. See VINCI.

LEONHARD, KARL OLSAR VON, a German mineralogist and geologist, born in Rumpelheim, near Hanau, Sept. 12, 1799. He was educated at Marburg and Göttingen, was employed in making several scientific journeys in different parts of Germany, and until 1814 held important offices in the administration of the duchy of Hanau. Retiring from the service of the state to devote himself exclusively to study, he became in 1816 member of the Bavarian academy of sciences, and in 1818 professor of mineralogy and geology in the university of Heidelberg. In this department of science he is the most voluminous German writer.

LEONIDAS, king of Sparta, son of King Anaxandrides, and the 17th of the family of the Agides, killed at the battle of Thermopylae, 480 B. C. He married Gorgo, daughter of his half brother Oleomenes, whom he succeeded as king in 491. When Athens and Sparta alone, of all the Greek confederacy, resolved to resist the invasion of Xerxes, Leonidas led the Spartan forces, and gained immortal glory, especially by the heroic death of himself and his chosen band. (See *GREECE*, vol. viii., p. 442.)

LEONINE VERSES, a sort of metrical and rhyming Latin compositions, common in the middle ages. The name is derived probably from Leo or Leoninus, a Benedictine and canon of Paris in the 12th century, who wrote almost exclusively in hexameters and pentameters rhyming at the caesural pause and at the end, thus:

*Dæmon languebat, monachus tunc esse volebat;
Ast ubi convaleuit, mansit ante fuit.*

He translated nearly the whole of the Old Testament into verses of this kind, but they had been in use long before him. Similar undesignated rhymes are occasionally found in the Latin classic poets, especially Ovid. Commodianus wrote jingling verses in the 3d century A. D., and two centuries later rhyme appears

in the hymns sung in churches. Among the most popular leonine poems were the *Regimen Sanitatis Salernitanum*, produced in the 11th century by the physicians of Salerno, and some of the bacchanalian songs of Walter Mapes in the 12th century. Numerous variations in the fall of the rhymes were admitted. The hexameter couplets usually rhyme at the end, often both at the caesural pause and at the end; and the reciprocal leonine gives 4 rhymes to each couplet, the two in the middle agreeing with the two at the end.

LEOPARD (*felis leopardus*, Linn.), a carnivorous mammal of Africa and India, often confounded with the African panther (*F. pardus*, Linn.), but of smaller size, paler yellow color, and with more numerous rows of spots. It is very graceful, slender, and active, the body being about 38 inches long, the tail 27, and the height 26 inches; the ground color of the fur is tawny yellow, whitish below, the sides and back with numerous circles formed of from 3 to 5 spots of black; the head, fore quarter, and limbs marked with irregularly shaped spots; the color within the circles being darker renders them more distinct; according to F. Cuvier, 10 of these ringed spots can be counted in a perpendicular line from the back to the under parts. The leopard inhabits thick forests, preying upon antelopes, deer, and mammals of similar size, and even sheep, hares, and wild and domestic fowls; being an excellent climber, it resorts to trees in pursuit of game or for safety; it is taken in traps, or shot from trees into which it has been pursued by dogs. It is frequently seen in captivity, and occasionally breeds in confinement, being gravid 9 weeks, and the young born blind. Of the strength, daring, and ferocity of the leopard several examples are given in Cumming's "Hunter's Life in Africa." This animal is considered by many authorities as the same with the panther, and by equally good ones as distinct. (See *PANTHER*.)—The hunting leopard of Africa (*felis jubata*, Schreb.), which Wagler has elevated to a genus *cynailurus*, is a very interesting animal, having the colors and appearance of the larger spotted cats, and yet with a form and a susceptibility of being trained like the dog, so much so that Ouvier calls it a canine cat. The color is bright tawny yellow, covered with full, round, black spots equally distributed; there is a mane of longer hair on the neck; the legs are longer than in the leopard, and the claws are not retractile; the length is 3½ feet. With the strength, suppleness, teeth, and powerful jaws of the cats, it wants their sharp claws and ferocious disposition; it is easily tamed, and is trained to chase deer like a hound; the hair has a crispness like that of the dog. This animal, called *cheetah* and *guepard*, performs among mammals the part of the falcons among birds; its natural instinct is to pursue game, and the reward of a portion induces it to yield the rest to the master. In Africa the hunting leopard is valued only for the skin, which is worn by per-

sons of distinction and commands a high price. An Asiatic variety (*C. venaticus*, Griff.), which is maneless, has been used from very early periods, especially in the Mogul empire, for hunting purposes; it is said that some of the emperors went to the field accompanied by 1,000 of these leopards; this sport is now confined to India and Persia. The leopards are so tame that they are led in a leash like greyhounds, with eyes covered; on approaching the game, they are unhooded and let free, and very soon pull down the victim, prostrating it by a blow of the paw, and sucking the blood from the throat. The disposition is so gentle that they live amicably with domestic animals and with children, purring when caressed. This animal forms a connecting link between the dogs and cats.

LEOPARDI, GIACOMO, count, an Italian poet, born in Recanati, near Ancona, June 29, 1798, died near Naples, June 14, 1837. He was the son of Count Monaldi Leopardi and the marchioness Adelaide Antici. At the age of 16 he wrote a commentary on Porphyry's "Life of Plotinus," and about the same time a dissertation on the life and writings of the principal rhetoricians of the 2d century, of which Cardinal Mai availed himself in preparing his edition of the "Epistles of Fronto." These and many of his other writings remain unpublished. Leopardi's acquaintance with the classical languages and with the ancient world was so profound that he imposed a hymn to Neptune and two Greek odes of his own composition on the literati of Europe as genuine relics of antiquity. At the age of 20 he was celebrated throughout Italy for the eloquence and energy of his versification. In 1819 his sight was so much impaired by severe studies that he was forbidden to read, and about the same time he went on account of ill health to Rome, where he became acquainted with Niebuhr and Bunsen. As a critic Leopardi ranks with Marini, Mai, and Giordani, the most eminent of modern Italy. Of his poems, *Il labato del villaggio* and *La sera del dì di festa* are particularly remarkable for their truth to nature, and their chaste and beautiful style. The best complete edition of his works is that published at Florence in 1845. His *Saggio sopra gli errori popolari degli antichi*, written in 1815, was edited by Prospero Vane, and published in 1846; and a selection of his correspondence (*Epistolario*) appeared in 1849.

LEOPOLD I. (GEORGES CHRISTIEN FRÉDÉRIC), king of the Belgians, born in Coburg, Dec. 16, 1790. He is a son of Duke Francis of Saxe-Coburg-Saalfeld, received a brilliant education, entered the military service of Russia, and in 1808 accompanied the emperor Alexander I. to Erfurt with the rank of general. Compelled by the influence of Napoleon in 1810 to relinquish his position in the army of the czar, he devoted himself to the interests of Saxe-Coburg. The principal public achievement under his administration was the boundary treaty concluded with Bavaria in 1811. In Feb. 1818, he re-

joined the emperor Alexander, and took an active part in the battles of Lützen, Bautzen, Leipzig, and Oulm. In 1814 he accompanied the allied sovereigns to England, where he made the acquaintance of the princess Charlotte, whom he married, May 2, 1816; she died in Nov. 1817, after having been delivered of a still-born child. On occasion of this marriage Leopold was raised to the rank of a British field marshal, became a member of the privy council, was created duke of Kendal, and a pension of £50,000 was conferred upon him. After the death of his wife he resided at London, and chiefly in his palace of Claremont. On Feb. 8, 1830, the crown of Greece was offered to him, which he finally refused, after having accepted it upon conditions which were not complied with. In June, 1831, he was elected king of the Belgians, and was inaugurated July 21. In 1832 he married the accomplished daughter of Louis Philippe, the princess Louise, who died Oct. 11, 1850. She bore him 3 children: 1, Léopold Louis Philippe Marie Victor, duke of Brabant, presumptive heir to the Belgian crown, born April 9, 1835, married, Aug. 22, 1858, to the archduchess Maria of Austria; 2, Philippe Eugène Ferdinand Marie Clément Baudouin Léopold Georges, count of Flanders, born March 24, 1837; 3, Marie Charlotte Amélie Auguste Victoire Clémentine Léopoldine, born June 7, 1840, married, July 27, 1857, to the archduke Maximilian of Austria. His civil list amounts to 2,751,322 francs; and although his private fortune has been much impaired by the sequestration of his second wife's property, included in Louis Napoleon's confiscation of the Orleans estates in 1852, he is one of the richest men in Europe, and is thought parsimonious. He passes most of his time in retirement with his family at his country seat of Laeken, or upon his extensive domain of Ardenne near Dinant, and is opposed to all pomp or ostentation at his court.—King Leopold has displayed much ability in the discharge of his duties as a constitutional sovereign in the domestic affairs of Belgium, as well as in the relations with foreign countries. On the outbreak of the French revolution of 1848 he offered to retire, if such was the wish of the people—a declaration which had the effect of increasing his popularity. He has also shown much tact in his relations with the French emperor, while his conciliatory disposition and his comprehensive statesmanship, as well as his family connections with most of the European dynasties, have enabled him on several occasions to act as mediator in times of political complication. His relation with the English court is peculiarly intimate, owing to his first marriage with Princess Charlotte, and his relationship with Prince Albert and Victoria, of whom he is the uncle, her mother the duchess of Kent being his sister.

LEOPOLD I., emperor of Germany, born June 9, 1840, died in Vienna, May 5, 1905. He was the 4th son of the emperor Ferdinand III. of the house of Hapsburg, and of Maria Anna

of Spain, and was educated for the church, when the death of his brothers made him heir to the throne of his father. Previous to the death of the latter in 1657, Leopold had been crowned king of Hungary; but the possession of this country could be secured only by decisive victories over the Turks, who held a large part of it, and also regarded themselves as the suzerains of Transylvania. The war having been renewed, Montecuculi won the great battle of St. Gothard on the Raab (Aug. 1, 1664), which was followed, however, by a peace which the Hungarian partisans of the emperor regarded as ignominious. This and many other grievances led to a conspiracy headed by Peter Zrinyi, Frangepan, and other Hungarian magnates, which being discovered was punished by the execution of the principal leaders at Neustadt near Vienna (1671). This was followed by the great insurrection under Tökölyi, and in 1683 by the Turkish invasion of Austria under Kara Mustapha. Leopold fled from Vienna, but John Sobieski's great victory saved his capital and throne, for which services he was hardly deemed worthy of a friendly salute by the proud and imbecile though honest emperor. Sobieski, Louis of Baden, and afterward Prince Eugene, continued the work of deliverance from the Turks. Buda was retaken after a memorable siege in 1686, and the victories at Zálánkemén (1691) and Zenta (1697) led to the peace of Carlovitz (1699), which also secured the possession of Transylvania. But neither the wholesale executions of Hungarian patriots by the so called "bloody tribunal" of Caraffa at Eperies, nor the acquiescence of the diet of Presburg in the proposition to make the male line of the Hapsburgs hereditary in Hungary (1687), could make peace permanent in that long distracted country; and Leopold, who also had to wage three protracted wars against Louis XIV., the first two of which were terminated by the treaties of Nimeguen (1678) and Ryswick (1697), bequeathed to his eldest son and successor Joseph I. not only the war of the Spanish succession, commenced in 1701, but also the great Hungarian insurrection under Francis Rákóczy. Both of these, though the battle of Blenheim (1704) had inaugurated before his death the series of Marlborough's and Eugene's victories over the French, were brought to a close only under his younger son Charles VI. In the German empire the long reign of Leopold witnessed the growing power of the house of Brandenburg under Frederic William, the great elector, whose son assumed the royal title under the name of Frederic I. in 1701. The house of Hapsburg, however, consolidated itself under Leopold, who became the heir of the Tyrol line of the family.

LEOPOLD II., emperor of Germany, of the house of Hapsburg, born May 5, 1747, died March 1, 1792. He was the 8d son of the emperor Francis I. and Maria Theresa, and on the death of his father in 1765 succeeded him on the throne of Tuscany, which he had received in exchange for Lorraine. Mild, humane, and

well educated, though of very dissolute habits, Leopold ruled his grand duchy in the spirit of his age, and a series of liberal reforms had made it almost a model of a monarchical state, when the death of his brother Joseph II. in 1790 called him to the greater cares of the vast Austrian dominions and soon after of the German empire. Joseph's violent reforms and ambition had given rise to disaffection in almost all his provinces, a revolution in Belgium, a similar movement in Hungary, a dangerous war with Turkey, and menaces of another on the part of Prussia, seconded by Holland and England; while the gathering revolutionary tempest in France threatened not only all Leopold's monarchical interests, but also the personal safety of his sister Marie Antoinette. He hastened to make terms with Frederic William II. at Reichenbach (July 27, 1790), was unanimously elected German emperor, pacified Hungary by taking the royal oath to observe strictly the constitution and by various concessions, proclaimed a full amnesty and restored all their ancient privileges to the Belgians, gave Tuscany to his son Ferdinand, concluded a peace with Turkey at Sistova (Aug. 4, 1791), concerted with Frederic William, Frederic Augustus of Saxony, and others, at Pilnitz, preliminary measures for meeting the aggressions of the French revolution, and finally made a formal defensive and offensive alliance with Prussia (Feb. 1792), when he died suddenly of dysentery. Of his 16 children his eldest son Francis succeeded him on the throne of Austria, as well as in the German empire, as the last of its elective rulers.

LEOPOLD II., late grand duke of Tuscany, born in Florence, Oct. 3, 1797. He was educated at Würzburg, Germany, where he studied German and particularly Italian literature, with so much success that at a later period of his life he was able to prepare an excellent edition of the works of Lorenzo de' Medici (Florence, 1825). He succeeded his father Ferdinand III. in 1824, and although subservient to the Austrian policy in Italy, he was personally esteemed on account of his amiable disposition. In 1847 and 1848 he evinced his readiness to adapt himself to the demands of the people for more liberal institutions, but the events of Feb. 1849 compelled him to resort to flight. He was, however, speedily reinstated in his position by the Austrians. On occasion of the French-Sardinian war against Austria in 1859, he abandoned the country, after a revolutionary movement in the capital (April 27), and resigned his throne in favor of his son Ferdinand IV. (July 21, 1859). The annexation of Tuscany to Sardinia was finally accomplished in March, 1860.

LEOSTHENES, an Athenian general, who commanded the confederated Greek forces in the Lamian war, 323 B. C. He probably acquired his high military reputation as a leader of mercenaries in the Persian service. He collected and led back to Greece those Hellenic soldiers who had been warring against the Macedonians, and had been disbanded by com-

mand of Alexander. On the death of that conqueror, the Athenians resolved to make one bold effort to recover their freedom, and expel the Macedonians from Greece, and Leosthenes was appointed to conduct the war. Having worsted the Boeotians, who adhered to the foreigner, Leosthenes defeated Antipater and the Macedonians near Thermopylae, and compelled them to seek refuge in the town of Lamia; but while pressing the siege of this place he received a wound in the head, which occasioned his death. The loss of their leader spread consternation among the confederates, and was probably the principal cause of their overthrow.

LE PAGE, MARIE ANNE. See BOCCAGE.

LEPANTO (Gr. *Nepactos*; anc. *Naupactus*), a seaport town of Greece in the government of Aetolia, on the N. coast of the gulf of the same name, 12 m. N. E. from Patras; pop. 2,000. It is built on a hill, and is commanded by a castle. The neighboring country produces grain, rice, wine, tobacco, and olive oil, and leather is manufactured and exported. Lepanto was long in possession of the Venetians, by whom it was fortified, and under whom it sustained a siege by the Turks in 1475 which lasted 4 months, when the besiegers withdrew with the loss of 80,000 men. It was ceded to the Turks in 1697. —The gulf of Lepanto is 75 m. in length from E. to W., and lies between the N. coast of the Morea or Peloponnesus and the mainland of Greece. At its W. end is the gulf of Patras, which is connected with it by a strait somewhat more than a mile in width, called the strait of Lepanto, and sometimes the Little Dardanelles. Toward the middle the gulf of Lepanto attains the width of 12 m. It is surrounded by lofty and picturesque mountains, and the scenery is said to equal that of the lakes of Switzerland and northern Italy in romantic beauty. This gulf was the scene of one of the greatest and most important naval battles ever fought. In 1571 war existed between the Turkish sultan Selim II. and Philip II. of Spain, Pope Pius V., and the Venetian republic. The three Christian powers fitted out a great armada, of which the command was given to Don John of Austria, natural son of the emperor Charles V., who, though only 24 years of age, had already won a high reputation in the war with the Barbary corsairs and with the insurgent Moriscos of Granada. The allied fleet assembled at Messina in Sicily; it consisted of 300 vessels, of which 200 were "royal galleys" of large size, manned by 50,000 seamen, and 20,000 Spanish and 9,000 Italian soldiers, comprising many cavaliers of rank and distinction. On Sept. 16 this formidable armament sailed from Messina, and at sunrise on Sunday, Oct. 7, 1571, reached the entrance of the gulf of Lepanto, where they came in sight of the Turkish fleet, consisting of 250 royal galleys of the largest size, beside many smaller vessels, the whole carrying 130,000 men. The Christian fleet extended on a front of 8 miles, the right commanded by the Genoese admiral Doria, the left

wing by the Venetian admiral Barbarigo, and the centre by Don John in person, supported on the one side by Colonna, the papal captain-general, and on the other by the Venetian captain-general Sebastian Veneiro. The centre of the Turkish fleet was commanded by Ali Pasha, the right wing by Mohammed Sirocco, the viceroy of Egypt, and the left by Uluch Ali, dey of Algiers. The last two were commanders of great experience and reputation. Before the battle began Don John embarked in a light galley and passed rapidly through his fleet, saying to his followers: "You have come to fight the battle of the cross—to conquer or to die. But whether you are to die or conquer, do your duty this day, and you will secure a glorious immortality." The action began about noon, and lasted upward of 4 hours. It resulted in the total defeat of the Turks, of whose entire fleet not more than 46 galleys escaped, while 130 were taken and 80 burned or sunk. Their loss in men was about 25,000 killed and 5,000 taken prisoners. More than 12,000 Christian captives who had been chained to the oars on the Turkish galleys were also set free. Ali Pasha, the Turkish commander-in-chief, was killed in the action. The loss of the allies was 1,000 Romans, 2,000 Spaniards, and 4,600 Venetians. Among the Spaniards engaged in the battle was Cervantes, the future author of "Don Quixote," then a young man 24 years of age, who was serving in the fleet as a common soldier. He received two wounds in the breast and another in the left hand, of which he lost the use. This victory caused a profound sensation throughout Christendom, as it was the first effective blow given to the power of the Turks, who had hitherto been thought invincible by sea. The news was received in Spain and Italy with extraordinary manifestations of enthusiasm. The pope on hearing the tidings burst into tears, exclaiming: "There was a man sent from God, and his name was John." The Turks themselves were so disheartened by this defeat, that the decline of their power dates from the battle of Lepanto.

LEPATERIQUE MOUNTAINS, a high range extending parallel to the Pacific, about 40 m. inland, through the republic of Honduras; average altitude 5,000 feet. It gives its name to a large Indian town, situated on a table-land or shelf, on its S. flank. The highest part of the range is called Cerro de Uli, and is 7,500 feet in height, with a truncated or level summit, on which the fruits and grains of the temperate zone are produced in abundance.

L'ÉPÉE, C. M., abbé de. See ÉPÉE.

LEPIDOPTERA, an order of insects. See BUTTERFLY, and MOTH.

LEPIDOSIREN, a vertebrated animal, possessing characters of both fishes and reptiles, and alternately referred by naturalists to one or the other of these classes. This animal was discovered by Dr. Natterer in the river Amazon in 1837, and was referred by him and Fitzinger to this genus, considered by them as belonging

to the fish-like or perennibranchiate reptiles. Prof. Owen ("Linnæan Transactions," vol. xviii., and "Proceedings of the Linnæan Society," April 2, 1839) had recorded this same paradoxical animal, in his MS. catalogue of the museum of the college of surgeons (1837), as a new genus of abdominal malacopterygian fishes, under the name of *protopterus*; he afterward made this family of *sirenida* the type of a distinct order of fishes, the *protopteri* (the *sirenoidei* of Müller); he referred it to fishes on account of its scaly covering and of its nostrils not communicating with the mouth, and to the abdominal malacopterygians from its soft and rudimentary fins indicating a transition from the abdominal to the apodal families, and for various other anatomical reasons. The skeleton is partly osseous, partly cartilaginous; the body is fish-like in form, and covered with cycloid scales; the pectorals and ventrals are mere jointed flexible rays; the bodies of the vertebrae remain in the embryonic state of a continuous chondro-gelatinous cord, though many other parts of the skeleton are well ossified. This transitional state between the embryonic condition of ossification of the vertebral centre and that of ordinary bony fishes, was common in the ganoid fishes, not one of which in the silurian or devonian epochs, according to Agassiz, had a vertebral centrum. There are 86 pairs of ribs, encompassing about $\frac{1}{2}$ of the abdominal cavity; immediately in front of the pectorals there is a vertical branchial opening; on the intermaxillary bones are 2 long, slightly curved, slender, acute teeth, on the upper jaw on each side a dental plate divided into 8 cutting lobes, and on the lower jaw a similar single plate whose lobes fit into the intervals of the upper, fitted for minute division of food; the tongue is well developed, the pharynx with a small valve-protected opening, the gullet short and narrow, the stomach thick, simple, and straight, the liver of good size with gall bladder, and the straight intestine with an internal spiral fold; there is neither pancreas nor spleen. The respiratory organs consist of branchiæ, with a double elongated air bladder resembling the cellular lungs of a reptile; the branchial sac is large, and the gills are supported on 4 arches on each side, 2 additional arches offering no trace of gills, there being 5 intervals for the passage of water into the pharynx; the nasal cavities open into the mouth (this is denied by Owen), and the laryngeal opening leads to the honey-combed air bladders or lungs, which are behind the kidneys and internal reproductive organs; the kidneys are long and narrow, the ureters and the genital ducts opening into the cloaca; the heart, in a strong pericardium, has a single ventricle, a single imperfectly divided auricle, and an arterial bulb, a large part of the blood in the adult being sent to the air bladders for purification. The eyes are small and adherent to the skin, which passes over them without forming any projection, and the lens is small and spherical; there is no trace of tympanic cavity nor Eustachian

tube. The scaly covering, soft fin rays, characters of the spinal canal and cord, mucous ducts and lateral line, peculiarities of the cranial and jaw bones, intestinal spiral valve, absence of spleen and pancreas, single auricle, the nasal sacs opening only externally (the last denied by many), and the articulation of the scapular arch to the occiput, prove, according to Owen, that the lepidosiren is a fish, and not a batrachian, forming a connecting link between cartilaginous and soft-rayed fishes, and coming in this class the nearest to the perennibranchiate reptiles. The *L. paradoxa* (Natterer), from the morasses of the river Amazon in Brazil, attains a length of about 8 feet; when the water dries up, they plunge under the mud; the food is said to consist of vegetable matters. The *L. annectens* (Owen), from the river Gambia and also the Mozambique coast, is a smaller species, rarely more than 2 feet long. In the "Proceedings of the Zoological Society of London" for Nov. 11, 1856, Mr. J. E. Gray advocates the batrachian nature of the lepidosiren, 8 specimens of which were brought alive from Africa, enclosed in balls of hardened clay in which they remained torpid during the 8 months of the dry season; they were on exhibition at the crystal palace at Sydenham for a considerable time, and one for several months. From the account there given it appears that this animal can move with considerable rapidity forward and upward by means of its tail, which is surrounded by a membranous expansion like a confluent dorsal and anal fin. The pectoral limbs are elongated and margined behind with a narrow membrane, the ventral having a similar edging in the middle of the outer side; they are very mobile and flexible, and are more used like feet than fins, supporting the body about 2 inches from the bottom, and also serving to direct its motions; the 2 processes on each side over the pectorals, considered as external gills by some, he regards as a portion of the anterior limb, as they possess no peculiar vascular structure; the movements are much more like those of the water salamanders than of eel-shaped fishes. The mucous pores on the head and the lateral line are common to fishes and some batrachians; the small, circular pupil is black, and the narrow iris golden; the mouth is firmly closed by the overhanging upper lip, except in front, where the water is admitted to open external nostrils on the middle of the under side of the upper lip; the lips close behind, so that water cannot pass into the mouth under these circumstances except through the nostrils; the internal openings of the nostrils are just behind the edge of the closed lips, and through them the animal breathes water in the quiescent state, passing it out at the gill aperture in front of the pectorals; it also introduces water to the gills through the widely extended mouth. As if this were not sufficient for respiration, it occasionally rises to the surface and takes in air by the open mouth, and swallows it into the sacculated lungs, a few bubbles generally escap-

ing from the gill aperture. These internal nostrils were noticed by Bischoff in the *L. paradoxus*. It thus appears that the lepidosiren breathes by both gills and lungs, taking in water by the nostrils, and respiring air like batrachians and water like fishes, constituting as near an approach to an amphibious animal as is known to exist; it probably can no more live on air alone than can the *menobranchus* or fish lizard of the North American lakes. They are abundant in the rice fields, which are under water for more than half the year; the natives dig them out of the mud toward the end of the dry season, and consider them a delicacy as food. The mud cocoons in which they were carried to England had each a small opening at the end where the nose of the animal is placed; as developed at the crystal palace, they were very thin and 9 inches long when they left the cocoon, but began to feed at once on worms, small frogs, fish, and raw meat, attacking each other with fury, and one at last killing and half devouring another; in 3 months they attained a length of 18 inches; the movements, as in the *menobranchus*, are generally sluggish, but they are capable of very rapid motion; the food seems to be detected as much by scent as by sight. While in the cocoons they are in a state of hibernation, the blood being sufficiently purified by the arterial trunks distributed to the air bladders. The color of the *L. annectens* is a mixed tint of dark olive green and brown, lighter below, with irregular dark spots as large as the scales chiefly confined to the tail, and the mucous pores and lateral line black. The anus does not open on the median line of the body. With such contradictory opinions as to the position of this animal, possessing characters both of the fish and the batrachian, it would seem to belong to a distinct order, or even a separate class, forming one of the most interesting links between the ichthyoid batrachians and the cartilaginous fishes.

LEPIDOSTEUS, a ganoid fish. See GAR FISH.

LEPIDUS, the cognomen of a distinguished Roman family of the *Æmilian gens*, the most illustrious of whom were the following. I. M. *ÆMILIUS*, died in 152 B. C. He was one of the three persons sent to Egypt by the Romans in 201 B. C. to act as guardians to the infant king Ptolemy V., was elected pontiff in 199, ædile in 192, prætor in 191, and consul in 187. While consul he reduced the Ligurians, and continued the *via Flaminia* from Ariminum to Aquileia. In 180 he became *pontifex maximus*, in 179 censor, and in 175 a second time consul. He was 6 times chosen *princeps senatus*. II. M. *ÆMILIUS* PORCINA, consul in 187, was sent into Spain to conduct the war against the Numantines; but instead of doing so, he attacked the Vaccæi, with whom the Romans were at peace, and laid waste their territory. For this aggression he was recalled, deprived of his command, and fined. He was, according to Cicero, the most eloquent orator of his age. III. M. *ÆMILIUS*, prætor in Sicily in 81 B. C., by his exactions

and oppressions rendered himself odious to the inhabitants. When the civil war broke out between Marius and Sylla, he espoused the cause of the latter, but afterward married the daughter of the tribune Saturninus, and deserted to Marius. In 79 he became a candidate for the consulship, and was elected through the instrumentality of Pompey; but having failed in an attempt to effect the legal abrogation of Sylla's laws, he retired into Etruria, raised an army, and advanced against Rome. He was encountered by Pompey and Catulus under the walls of the city, and completely defeated. IV. M. *ÆMILIUS* the triumvir, died in 13 B. C. He was prætor in 49 B. C., and on the outbreak of the civil war between Cæsar and Pompey joined the party of Cæsar, who intrusted him with the government of Rome during his absence from Italy. In 48 B. C. he received the province of Hither Spain, where he distinguished himself by his vanity and avarice. In 47 B. C. Cæsar made him his *magister equitum*, and the next year his colleague in the consulship. Lepidus was in the vicinity of Rome at the head of a considerable force when the dictator was assassinated, and by supporting Antony obtained for himself the office of *pontifex maximus*. He then repaired to his proconsular provinces beyond the Alps, and remained there in a state of armed neutrality till Antony fled to him for protection after his defeat at Mutina. The two generals, now uniting their forces, once more entered Italy, and at Bononia, in 43 B. C., formed in conjunction with Octavius that celebrated coalition termed the *triumvirate*. In this combination Lepidus was but a cipher, receiving in the division of the empire only the provinces of Spain and Narbonese Gaul, and remaining in Rome as consul while Antony and Octavius marched against Brutus and Cassius. After the battle of Philippi he was deprived of his provinces on an unfounded charge of treasonable conduct, but was to receive Africa on its being disproved; it was not till two years later, however (40 B. C.), that he was allowed to proceed thither. In 36 B. C., being called to Sicily by Octavius to aid him against Sextus Pompey, he attempted to take possession of the island and make himself independent of his colleague; he succeeded in gaining over 8 of the Pompeian legions, which with his own made a powerful army. Octavius, after tampering with his soldiers, ventured personally into his camp, exhorting them to prevent a civil war by coming over to him. Though wounded and obliged to retire, this bold proceeding had the desired effect, the legions gradually deserting Lepidus till he was left powerless, and on his knees begged Octavius for his life. He was at once deprived of all share in the government, and thereafter kept under strict surveillance at Circæii.

LEPRA (Gr. *λεπρος*, scaly), *lepra vulgaris*, a skin disease characterized by circular patches, the centre depressed with the skin sound or nearly so, the circumference slightly elevated and covered with small, dry, shining scales.

Lepra commences with an eruption of small, red, elevated points, each covered with a minute scale; the disease advances at the circumference, the centre gradually becoming sound. The eruption is perfectly dry. The circular patches rarely become more than an inch in diameter. Where the eruption is copious, these patches intersect each other at the circumference, and the circular form is lost, but characteristic segments of a circle can still be traced. The disease commonly commences in the extremities, and often extends over the trunk; the head and face are very rarely affected. When it is very chronic and extensive, the roots of the nails are sometimes affected, and these latter become thickened, curved, and of a dirty yellow color; according to Rayer (*Maladies de la peau*), the matrix of the nails sometimes becomes inflamed and furnishes a sanious discharge. The general health is very slightly affected by the disease, and the patient only suffers from an annoying itching, aggravated by warmth, exercise, or full diet, and chiefly present at the commencement of the complaint or while it is spreading. *Lepra alphoides* is a variety of the disease in which there is less redness of the skin and elevation of the circular margin of the patches, while the scales are smaller and of a more pearly whiteness. In *lepra nigricans* the scales have a dark or blackish color; it is a rare form, and according to Bielt always of syphilitic origin. *Lepra* is mainly an affection of youth and adult life, but no age is exempt from it. It is unattended with danger to life, but obstinate and uncertain of cure, sometimes disappearing in one place to appear in another, or reappearing directly after remedial means have been discontinued. Its essential causes are unknown.—*Treatment.* Internally the remedy from the use of which benefit is derived in the greatest number of instances is undoubtedly arsenic. Fowler's solution may be given in doses of from 3 to 5 drops 3 times a day, its effects being carefully watched. Bielt in many instances has derived great advantage from the tincture of cantharides, commencing with small doses, which are gradually increased. Externally, alkaline baths (from 4 to 8 ounces of the subcarbonate of potassa to a bath) and vapor baths have been particularly recommended. Tar ointment (1 part to 8 of lard) is of undoubted efficacy. Bielt also recommends the use of an ointment of iodide of sulphur (12 grs. to the ounce of lard), and of calomel ointment (1 dram to the ounce).—Under the name of *Leprosy*, during the middle ages, were confounded tubercular elephantiasis, elephantiasis of the Arabs (Barbados leg), the scaly diseases of the skin (*lepra* and psoriasis), and other chronic skin diseases which were rendered rife and inveterate by a bad diet and want of cleanliness. The same confusion existed among the ancient Jews and Egyptians, and probably among other eastern nations, from the earliest historical times. The Jews brought the affliction with them into Palestine, and the

stringent provisions of the Mosaic law show how dreadful must have been its ravages and how great the terror which it excited. Regarding it as a disease sent from God, for which no natural remedy could be prescribed, they required that the person supposed to be infected should show himself to the priest; and if in the opinion of the latter the disease was leprosy, he was declared unclean and immediately separated from the rest of the people. So strictly was the rule observed, that even kings afflicted with the disease were expelled from their thrones, and shut out from society. Outside the gates of cities and in secluded districts were usually found leper villages, an institution still existing in the East, where these outcasts of society dragged out their wretched lives, depending upon their own labors and the alms of the charitable for the means of subsistence. Hospitals for their relief or protection seem to have been unknown among any of the nations of antiquity. With the tide of emigration westward during the decline of the Roman empire leprosy was disseminated over Europe, and during the middle ages prevailed to such a frightful extent that from the 6th to the 15th century the efforts of lawgivers were unceasing to arrest its diffusion. Its principal ravages in the West date after the first crusades. The isolation of the infected was still the universal practice, but under the influence of Christianity a more humane spirit presided over the treatment of lepers, and hospitals and asylums on charitable or religious foundations were provided for their reception. In the 13th and 14th centuries these buildings almost literally covered the face of the continent, being numbered by thousands in every country. Every considerable town had one or more of them in its neighborhood, and at one period it is said that scarcely a town or burgh in France was unprovided with such an establishment. Almost from the commencement of the Christian era pious fraternities are said to have been organized for the care of persons afflicted with leprosy; and Pierre de Belloy, in his *Origine et institution de divers ordres de chevalerie*, mentions an order of St. Lazarus, so called from Lazarus the beggar (Luke xvi. 20), the patron of lepers, which was established as early as A. D. 72. This must not be confounded with the military order of St. Lazarus, established by the crusaders at Jerusalem in the early part of the 12th century, and whose duty it was originally to take charge of lepers and their asylums in the Holy Land. The knights hospitallers of St. Lazarus, after being driven out of Palestine, established themselves in France and instituted a celebrated hospital or leazar house outside the gates of Paris. Subsequently, under the protection of several popes, they settled in Sicily and lower Italy; but with the disappearance of the disease they lost their distinctive religious and charitable character, in accordance with which their constitution required the grand master to be a leper. In general, however, hospitals for the

reception of lepers were supported by chance eleemosynary contributions, and in secluded portions of the country the condition of the inmates was scarcely less pitiable than in ancient times. But even under the most favorable circumstances the leper was completely and for ever an outcast from the world, being considered both legally and politically as a dead person. Upon being set apart from his fellow creatures the ceremonial for the burial of the dead was pronounced over him, masses were said for the benefit of his soul, and, to carry out the illusion to the fullest extent, a shovelful of earth was thrown upon his body. His marriage ties were thenceforth dissolved, although he might contract a new marriage with a person similarly afflicted; he was prohibited from entering any church or place where food was prepared, from dipping his hands in any running water, and from taking up food or any other article necessary to him without the assistance of a stick or fork; and was strictly enjoined to wear a peculiar dress by which he could be known at a distance, and to give notice of his approach by ringing a bell. With the progress of civilization, and the improvement of the condition of the poorer classes, leprosy declined rapidly; and except in Norway and a few places in the south, it is now unknown in Europe. The horror which the various forms of the disease formerly inspired has, notwithstanding its disappearance, remained in full force, and the word leper at the present day designates a person whose social and physical condition has reached the lowest pitch of degradation. In the East it still exists in its ancient seats, and sporadic cases are found in the islands of the Indian archipelago, on the coasts of Africa, in the West Indies, and in Canada and elsewhere in America.

LEPSIUS, KARL RICHARD, a German Egyptologist, born in Naumberg on the Saale, Prussian Saxony, Dec. 11, 1811. In 1828 he began the study of languages at the university of Leipzig, and continued it at Göttingen and Berlin, at which latter place he was a pupil of Bopp. In 1833 his essay on the Eugubian tablet obtained for him the degree of doctor from the university of Berlin. In 1834 he published his *Paläographie als Mittel der Sprachforschung*, and in the same year went to Paris, where through his friend Humboldt he became well known to the French literati. In April, 1836, he arrived at Rome, where he became a member of the archaeological institute and formed an intimacy with Bunsen. From this time he began to devote himself to the study of Egyptian antiquities, and in 1837 attracted much attention by his *Lettre à M. Rosellini sur l'alphabet hiéroglyphique*. His residence in Italy was short, but during it he made researches which formed the basis of several works published at a later date. Among these were his *Inscriptiones Umbrae et Osca* (1841), the *Todtenbuch der Aegyptier*, the impression of a papyrus in the museum of Turin (Leipzig, 1842), an essay on comparative philology and one on the numerals in the

Indo-Germanic languages, for which he received a prize of 1,200 francs, and two essays on the ancient inhabitants of Italy. In 1838 he left Italy on a mission to England from the archaeological institute of Rome. Here in company with Bunsen he projected a great work on ancient Egypt, the materials for which were partly to be gathered in personal investigations in that country. Through the intervention of Bunsen, Humboldt, and Eichhorn, King Frederic William of Prussia was induced to send an expedition of learned men and artists to Egypt, with Lepsius at its head. The party assembled at Alexandria in the autumn of 1842, and began its researches under protection of the government. Among the discoveries which Lepsius made in Egypt, are monuments of some of the Pharaohs of the old Egyptian monarchy and later Ethiopian dynasty, the remains of the labyrinth, and Lake Moëris. To these may be added the plan of the Memnonium and the tomb of Rhamses or Sesostria. But the most important discoveries claimed were that the Ethiopian civilization was in fact Egyptian, introduced 2,000 years before Christ, that the Ethiopians of Meroë were not a black but a brown Caucasian race, and that a great number of genuine Ethiopic inscriptions are still extant from the Meroitic pyramids down to Philæ. Among the members of this expedition were the two Weidenbachs, the architects Erbkam and Wild, Bonomi, Abeken, and the painter Georgi. Its results gave the most complete satisfaction when in 1845 it returned to Europe. It had previously transmitted a portion, and on returning brought with it the remainder, of a very fine collection of Egyptian antiquities, now in the museum of Berlin. While in Egypt, Lepsius wrote his *Briefe aus Aegypten, Aethiopien und der Halbinsel des Sinai* (Berlin, 1845; translated by Horner, London, 1853), in which his travels and discoveries were described in a spirited manner. Previous to his departure for the East, Lepsius had been elected one of the directors of the archaeological institute, and was also appointed by the king professor at Berlin, where he now resides. Among his principal works are: *Chronologie der Aegypter* (Berlin, 1849); *Ueber den ersten ägyptischen Götterkreis* (1851); *Ueber die 12te ägyptische Königsdynastie* (1853); and *Das Allgemeine linguistische Alphabet* (1855). The first number of his great work, *Die Denkmäler aus Aegypten und Aethiopien*, was published in 1849, and was continued in parts during 10 years, and completed in 1859. Alexander von Humboldt bases all his statements in his *Kosmos* relating to Egyptian chronology and history on manuscript information which he received from Prof. Lepsius in March, 1846, and remarks that "his expedition has resulted in throwing much light upon the whole of antiquity."

LERIDA (Catalan, *Lleyda*), a N. E. province of Spain, bounded N. by the Pyrénées and the republic of Andorra, E. by Barcelona, S. by Tarragona, and W. by Huesca; area, 6,141 sq.

m.; pop. in 1857, 816,868. The surface is mountainous in the N. part, being covered with spurs of the great range which separates it from France, but in the S. there are extensive plains. The principal river is the Segre, an affluent of the Ebro; it traverses the province in a S. S. E. direction, and receives a number of small tributaries. Much of the soil is fertile, producing grain, fruit, and many kinds of garden vegetables. Iron, copper, lead, zinc, coal, granite, marble, jasper, lime, and gypsum are the chief minerals.—**LERIDA** (anc. *Ilerda*), the capital of the preceding province, is situated on the right bank of the Segre, which is here crossed by a stone bridge of 7 arches; pop. 12,286. It is built partly on a hill and partly on the plain at its foot, and is strongly defended by walls, batteries, and a castle. It is an important military post, being regarded as the key of Aragon and Catalonia. The streets are narrow, crooked, and ill paved. The principal buildings are the old and new cathedrals, one or two ancient churches, the bishop's palace, diocesan seminary, town house, theatre, hospitals, &c. The university of Lerida, once an institution of some repute, was suppressed by Philip V. The town has an export trade in silk, hemp, wine, oil, and other produce of the surrounding territory. In ancient times it was the capital of the Ilergetes. It witnessed a victory by Cn. Scipio over the Carthaginian general Hanno in 216 B. C., and the defeat of Pompey's lieutenants Afranius and Petreius by Cæsar in 49 B. C. It was long in possession of the Moors, and was conquered from them by Raymond Berenger of Aragon, who made it the capital. It was taken by the French in 1707 and 1810.

LERMONTOFF, **MIHAIL**, a Russian poet, born in 1811, killed in a duel in the Caucasus in 1841. He was of noble birth, and in early manhood became an officer of the imperial guards. The death of Pushkin, the Russian Byron, in a duel in 1837, seems to have been his first incentive to poetical composition; but his poem commemorating this event, and which contained some insinuations with regard to the treatment of Pushkin by the imperial court, proved so distasteful to the emperor Nicholas, that he sent Lermontoff to serve in the army of the Caucasus, where he remained until his death. During this brief period he composed the greater part of his poems, the romantic fancy evinced in which, as well as their vivid descriptions of mountain scenery, have gained for the author the next place in the Byronic school of Russian poetry after Pushkin, and the title of the poet of the Caucasus. Among his chief productions in this department of literature are: "The Novice, or the Young Circassian," illustrating the strong love of the Circassians for their native mountains; "Valerik;" "Hadj-Abrek," a drama; "Ismail Bey;" "The Demon," published in Berlin in 1857; and the "Song of the Czar Ivan Vasilievitch." Most of these were collected at St. Petersburg after his death. A 8d edition of them was published there in 1852, and in the

same year a German translation by Bodenstedt appeared in Berlin. The poem on the death of Pushkin, after circulating extensively in manuscript, was first published in 1856 in the "Polar Star," a Russian periodical printed in London. During his residence in the Caucasus Lermontoff also wrote a remarkable novel entitled "A Hero of our Time," by which he is perhaps better known than by any of his metrical works. The hero, Pechorin, a misanthropical officer in the army of the Caucasus, who while yet in the bloom of manhood has lost all freshness of feeling and enthusiasm, and encounters dangers only for the excitement they yield, was very generally considered a portrait of the author himself. The plot is repulsive, and a duel fought on a precipitous rock whence the wounded party must fall, is described with morbid minuteness. A fellow officer, deeming himself portrayed in the character of Pechorin, challenged the author, and a duel similar to that described in the novel ensued, in which Lermontoff was killed. The work has been rendered into several languages. Two English translations have appeared, the best being by Mme. Pulszky.

LERO (anc. *Leros*), a small island of the Grecian archipelago, belonging to the Sporades, 85 m. S. from Samos; length N. and S. about 6 m.; average breadth 4 m.; pop. about 2,000. The soil is fertile, and the surface mountainous. The principal place is a town of the same name on the E. coast. The earliest inhabitants of the island were a colony of Milesians. Strabo describes the Lerians as dishonest. They possessed a celebrated temple of Diana.

LEROUX, **PIERRE**, a French philosopher and socialist, born in Rennes in 1798. After studying several years in the college of his native town and in the polytechnic school, the support of his family fell to him, and he became a compositor in a printing office in Paris. This function he soon changed for that of proof-reader, and in 1824 he was selected to be one of the editors of the *Globe*, a philosophical and literary journal, the organ of the *doctrinaire* party. The revolution of 1830 dispersed the editorial corps, most of its members being raised to official positions, and Leroux, who had zealously embraced Saint-Simonism, effected the transformation of the *Globe* into the organ of his new doctrines. He belonged to the community of the rue Monsigny till Nov. 1831, when he led the opposition to *Enfantin* on the question of the emancipation of woman, and separated from him with a majority of the members. With Jean Reynaud he edited for 8 years (1832-'5) the *Revue encyclopédique*, which they made the organ of their Neo-Saint-Simonism, but which failed of success. They began in 1834 the *Encyclopédie nouvelle*, a collection of remarkable disquisitions in development of Saint-Simonian doctrines, which still remains incomplete. He furnished numerous philosophical articles to the *Revue des deux mondes* during the first 6 or 7 years of the reign of Louis Philippe. Having found in George Sand a disciple who could give

a charm to his theories not only for thinkers but for the people, he established with her and with Viardot the *Revue indépendante*. In 1840 appeared his most important work, *De l'humanité, de son principe et de son avenir*, in which he opposes to psychology and eclecticism the study of the human mind in history, develops a principle akin to that which is termed tradition in other systems, and recognizes the constant progress of man and nature toward perfection. In 1845 he founded a printing establishment at Boussac, in Creuse, and two journals and numerous pamphlets from its presses were distributed through the neighboring departments. The establishment was organized according to his principles of association. There were popular manifestations in his favor, and he made his appearance in Paris in the garb of a peasant of Creuse. He returned in time to proclaim the republic at Boussac after the revolution of 1848, and was chosen mayor of his commune. Elected to the national assembly, he voted constantly with the radical party, and spoke on the organization of labor and the political and social emancipation of woman. But the arena of practical politics was unsuited to his mind. He left France after the *coup d'état* of Dec. 2, 1851, and is now (1860) established on a farm on the island of Jersey.—His various works contain a complete philosophy of life, embracing on the one side religious and metaphysical doctrines that incline to mysticism, and on the other a system of social organization. The principle which underlies all his views, and which he regards as the law of life, is that of the trinity or triad. God is the universal Life, impersonal, and distinct from particular beings, though immanent in each of them, whose attributes of force, love, and intelligence are manifest in the universe as totality, cause, and existence. Humanity is an ideal being composed of a multitude of real beings, each of which is humanity in germ, having the triple attributes of sensation, sentiment, and knowledge. The law of life both in the individual and the species is to make progress through changes, to aspire for the more perfect realization of the ideal type. The mystery of life is aspiration, as its manifestation is communion. A plant is a mineral so far advanced as to change its kingdom or sphere of life; an animal is a plant in like manner transformed; a human being is an animal transformed by reason. Thus more and more perfect creatures succeed each other on the earth. The identity and personality of every human being is judged and preserved in God, who returns it with new conditions of existence to the earth. The individual, the family, and the state are the three manifestations of humanity. To the trinity of sensation, sentiment, and knowledge in the individual, corresponds those of property, family, and state, expressing the spheres of personal action; of child, mother, father, which is the end of the family; and of liberty, fraternity, equality, the law of social life, which in organization renders

human beings respectively citizens, associates, and workers (*fonctionnaires*). The elements of the state are the nation, the commune, the citizen, or in other words, all, some, each one; and the combined action of these three constitutes the sovereignty of the people. The basis of association is the triad. The natural triad is the friendship of three human beings, each representing sensation, sentiment, or knowledge in predominance, and each therefore correcting the tendencies of the others toward excessive development. The organic triad is the association of three such persons, in distinction from friendship, for some common function. The social element is therefore not one individual, but three, or the triad. Every social function corresponds either to sensation, sentiment, or knowledge, that is, belongs to the domain either of industry, art, or science; and society is, therefore, naturally divided into the three equal orders of producers (*industriels*), artists, and savants. The commune is an association of a certain number, occupying a definite portion of territory, forming laboratories of industry, of art, and of science, united and governed by a triple power emanating from the election of the associates. The state is the union of all the communes, secures the rights of all, and expresses the unity of industry, art, and science. All the functions both of the commune and the state are administered by triads elected by all the citizens. Education is under the direction of the commune. Religion is philosophy well understood. Worship is the manifestation of religion in institutions, in social life, in festivals and symbolical ceremonies. Birth, initiation into the triad, marriage, communion, and death are the eminent occasions for ceremonies of worship. Sunday is also to be celebrated as the day consecrated to God, to rest, and to the ideas of the doctrine of humanity. Beside the works which have been mentioned, the principal publications of Leroux are: *D'une religion nationale, ou du culte* (1846); *Discours sur la situation actuelle de la société* (1847); *De l'humanité, solution pacifique du problème du prolétariat* (1848); *Projet d'une constitution démocratique et sociale* (1848); *Du Christianisme et de ses origines démocratiques* (1848); and *Malthus et les économistes, ou y aura-t-il toujours des pauvres?* (1848). Several of these are reproductions from periodicals. Though knowing nothing of the German language, he also with the aid of a friend made a very successful translation of Goethe's *Werther* (1848), with a preface by George Sand.

LEROY D'ÉTIOLLES, JEAN JACQUES JOSEPH, a French surgeon, born in Paris, April 5, 1798. He was educated at the imperial lyceum, subsequently studied medicine, and in 1822, before receiving his degree of doctor, presented to the academy of surgery a set of instruments invented by himself for the operation of lithotomy. The invention was claimed by Civiale and Amussat; but after a thorough examination of the case by committees of the institute and the academy of sciences, the merit of priority was

awarded to Leroy d'Étiolles. In 1831 the academy awarded him a prize of 6,000 francs for a forceps used in the performance of the operation; but so bitter was the feeling against him that he was accused of having borrowed the instrument from an old Arabic author. His inventive faculty has been employed in the production of a variety of other surgical instruments and appliances, and also in the construction of a new species of bomb and other engines of war. He has published a translation of Cooper's "Dictionary of Surgery," *Histoire de la lithotritie* (8vo., Paris, 1839), *Considérations anatomiques et chirurgicales sur la prostate* (1840), *Urologie* (1845), &c., beside various memoirs.

LEROY DE SAINT-ARNAUD, ARNAUD JACQUES, a French soldier, born in Paris, Aug. 20, 1801 (according to some authorities, in Gascony in 1798), died at sea, Sept. 29, 1854. His family, whose name was simply Leroy, belonged to the middle classes. He was educated at the college of Louis le Grand, and received in 1816 an appointment in the life guard of Louis XVIII., and afterward a sub-lieutenancy in the same regiment, which he was compelled to leave, however, on account of the part which he had taken in the street riots of 1820. Thrown upon his own resources, he was for some time in a very precarious position, and even imprisoned for debt at Ste. Pélagie. He spent some time in England, but, unable to find employment, he returned to Paris, and appeared upon the stage in one of the suburban theatres under the name of Florival. Being again unsuccessful, he sought an asylum in the house of his parents until after the revolution of 1830, when he was reinstated in the army with the rank of lieutenant. He took part in the so-called Vendean war of 1831, and served under Bugeaud. In 1833, when that general was appointed governor of the citadel of Blaye, where the duchess of Berry was detained, Leroy was chosen as the assistant gaoler, although he was characterized in the records of his regiment as being "lazy, dissipated, fond of gambling, and over head and ears in debt." Subsequently he pushed his fortunes in Algeria, both by the good will of Bugeaud and Bedeau and by his personal bravery, which was displayed conspicuously at the taking of Constantine. He succeeded Cavaignac as commander of the military division at Orleansville, where his luxurious style of living became a matter of general notoriety. After his capture of the rebel chieftain Bou-Maza he was made brigadier-general (1847). In Feb. 1848, he came to Paris, married a rich Belgian heiress, and afterward returned to Algeria as commander of the province of Constantine. In 1851 he operated successfully against the unruly Kabyle tribes, after which he was made general of division (July 10) and commandant of one of the military divisions of Paris. The revelations of his reckless administration in Orleansville, which were freely discussed at that time, did not prevent him from becoming a favorite with Louis Napoleon. Made minister of war in Oct. 1851,

he was among the most active in aiding the consummation of the *coup d'état* of Dec. 2. Among its victims was Gen. Leflo, a generous friend of Saint-Arnaud. In order to assure him of his safety, he sent, through his wife, an invitation for Mme. Leflo and her husband for a reception at the ministry to take place on Dec. 8; but on that day Leflo was, with many other African fellow soldiers of Saint-Arnaud, on his way to prison. His salary as minister of war was now raised from 48,000 to 100,000 francs, in addition to his salary of 30,000 francs as senator. A dowry of 300,000 francs was further presented by Louis Napoleon to his daughter, and in 1852 the lucky soldier of fortune received the titles of marshal and of grand equerry of France. In April, 1854, he was invested with the command of the French forces in Turkey, in which capacity he strenuously insisted upon the landing in the Crimea. Although tortured by intense suffering from disease and wounds, he was on the battle field of the Alma for 12 hours. He was compelled to relinquish his command on Sept. 26, after which the cholera was added to his other maladies, and his life ended 3 days afterward. The *Lettres du maréchal de Saint-Arnaud* were published in 2 vols. in Paris in 1855.

LE SAGE, ALAIN RENÉ, a French novelist and dramatist, born in Sarzeau, May 8, 1668, died in Boulogne, Nov. 17, 1747. An only son, and an orphan at 14 years of age, his uncle, to whom he was intrusted, sent him to be educated in the Jesuits' college at Vannes, and meantime dissipated the little property which had been left to him. He became a favorite at the college, after leaving which he seems to have held for several years an office in the collection of the taxes in Brittany. In 1692 he went to Paris to pursue his studies in philosophy and law, made his way into the best society, is said to have been offered the hand and fortune of a lady of quality, which he declined, and in 1694 married the daughter of a citizen. He was admitted an advocate, but preferred to seek resources in literature, and by the advice of his friend Danchet made from a Latin version a translation of the letters of Aristænetus (Paris, 1695), which had little success. There are few traces of him for several years, till the abbé de Lyonne became his patron, gave him a pension of 600 livres, and led him to study and admire Spanish literature. He translated 8 plays (1700-'2) from Roxas and Lope de Vega, none of which were successful, and his *Nouvelles aventures de Don Quichotte* (2 vols., 1704-'6), from Avellaneda's continuation of Cervantes, also passed without notice. In 1707 he translated from Calderon the comedy *Don César Ursin*, which failed at the *théâtre Français*; but a slight piece of his own entitled *Crispin, rival de son maître*, enjoyed a brilliant success, and gave the first proof of his genius. His romance *Le diable boiteux*, a satire, the idea of which was borrowed from the Spanish of Guevara, appeared in the same year, and immediately passed through two editions. He availed himself of his experi-

once among the farmers of the revenue in his next play, *Turcaret*, to attack the corruptions and ignoble vices of financiers. This powerful body is said to have offered him 100,000 livres to suppress it, and was able to prevent its representation for more than a year. It had a reputation in society before it was produced on the stage, where it was received with the greatest favor, though its excellence consists only in its delineations of manners. His next work was the novel *Gil Blas de Santillane* (2 vols., 1710; vol. iii., 1724; vol. iv., 1735), a series of pictures of all classes and conditions of society and of life in Spain under all its aspects. The hero has all the weaknesses and imperfections incident to human nature, is easily led to evil, profits by experience, triumphs in his turn over the persons who deceived him, is capable of repentance, always cherishes a respect for probity, and always promises himself to become an honest man on the first occasion. Characters with decided weaknesses abound, and a pure ideal devotion and moral dignity is perhaps the only type of human nature that is not represented. The delicate delineations, the nervous and effective style, the skilful blending of the manifold portraits into one comprehensive picture, are among the merits which have made it one of the most popular of novels. Its originality has been several times contested. Voltaire ventured to assert, with no reason at all, that it was taken from the *Marcos de Obregon* of Espinel. The Spanish Jesuit Isla asserted, what there are no facts to confirm, that it was originally written in Spanish, but was denounced and prohibited by the government, when the author fled to France with a single copy, which came after his death into the hands of Le Sage. The Jesuit Llorente in 1822 undertook to prove its Spanish origin from internal evidence. The delay of the comedians of the *théâtre Français* in producing one of his pieces caused Le Sage to abandon them, and to write light farces and comic operas for theatres of secondary rank. Either alone or with several associates he composed more than 100 comic operas, most of which were exceedingly popular. His principal later labors were an imitation of the *Orlando innamorato* of Boiardo (1717-'21); an abridged translation from the Spanish of Aleman of the *Aventures de Guzman d'Alfarache*; the *Aventures de Robert Chevalier, dit de Beauchêne* (1732), from materials furnished by his widow; *Histoire d'Estévanille Gonzales* (1734), a free translation from the Spanish; *Une journée des Parques* (1735); *Le bachelier de Salamanque* (1736); and *Mélange amusant de saillies d'esprit et de traits historiques des plus frappants* (1743). The only complete edition of his works appeared in Paris in 1828, in 12 vols. His *Gil Blas* was translated into English by Smollett; *Le diable boiteux* bears in English the title of the "Devil on Two Sticks," though in the most recent editions it is called "Asmodeus;" and English translations of several of his other works have appeared.

LESBOS. See MITYLENE.

LESCARBAULT, DR., a French physician and astronomer, born about 1800. Practising his profession from an early age at Orgères, Eure-et-Loir, he was at the same time zealously devoted to astronomical observations. Having become satisfied as early as 1837 that the system of Bode is far from representing accurately the proportions of the distances of the planets from the sun, he concluded that other small planets, beside Ceres, Pallas, Juno, and Vesta, must be in existence. His hopes of discovering a new small planet were strongly confirmed on May 8, 1845, when he witnessed the passage of Mercury over the sun. Depending solely, however, upon the slight income of his profession, he was not able to secure the means requisite for the pursuit of his investigations until 1858, and even then he was compelled to become himself the manufacturer of many of his instruments. His indefatigable labors were at length crowned with success on March 25, 1859, when he made the discovery of a new planet (since named Vulcan), whose diameter he estimated at 980 m. and the inclination of its orbit to the ecliptic at 12°. Its revolution around the sun is performed in 19 days 17 hours, and in its greatest elongation its distance from that body does not exceed 7°. It was only in the latter part of that year, however, that a communication of Leverrier to the academy of sciences on Mercury led him to reveal his discovery to that astronomer, who on Dec. 31 proceeded to Orgères, where, on making inquiries about the character of Dr. Lescarbault, he was told by the people of the village that he was a worthy physician, who wasted too much of his time in looking at the stars. Leverrier, after communicating with him and satisfying himself of the genuineness and accuracy of the discovery, made the public announcement of it in the beginning of 1860, and at the same time bestowed the highest eulogium upon M. Lescarbault, remarking that the delay which he allowed to elapse between his discovery and its revelation "proceeded solely from feelings of modesty and reserve, and from that serenity of mind which is still to be found occasionally in places remote from the excitement of large cities."

LESLEY, JOHN, a Scottish prelate, born Sept. 29, 1527, died in Brussels, May 31, 1596. He was an illegitimate child, his father having been a priest. He was graduated at King's college, Aberdeen; became a canon of the cathedral churches of Aberdeen and Elgin in his 20th year; and, after a long period of study in various continental universities, was in 1554 appointed professor of canon law in the university of Aberdeen. He opposed the introduction of Protestantism into Scotland, and upon the accession of Mary, whom he accompanied from France, he was appointed bishop of Ross. His fidelity to the queen involved him in perilous intrigues and misfortunes. After the imprisonment of Mary in Bolton castle he took part in the negotiations between her and Elizabeth.

He was subsequently examined on suspicion of being implicated in the scheme for marrying Mary to the duke of Norfolk, and in the rising of the earls of Northumberland and Westmoreland, and suffered a long confinement in the tower of London. In 1574 he was permitted to go to France, and for several years was employed in various missions in the interest of Mary and the Catholic cause in Scotland. In 1580 he was appointed suffragan and vicar-general of the diocese of Rouen, and in 1594 bishop of Coutances in Normandy. The troubled state of public affairs in France soon after induced him to seek an asylum in Brussels, where he died. He wrote several works, in English and in Latin, in defence of Mary, queen of Scots; *De Origine, Moribus et Rebus Gestis Scotorum*, in 10 books (4to., Rome, 1578; reprinted in Holland in 1675); and "The History of Scotland from the Death of James I. in 1486 to the Year 1531," in the Scottish tongue (first printed by the Bannatyne club, 4to., Edinburgh, 1880).

LESLIE, CHARLES ROBERT, an English artist, born in London in 1794, during the temporary residence there of his parents, who were Americans, died there, May 5, 1859. His father, a watchmaker of Philadelphia, and a warm personal friend of Franklin, Jefferson, and other distinguished men, went in 1798 to England with the intention of engaging in the exportation of clocks and watches to America. In 1800 young Leslie accompanied the family on their return to Philadelphia, and after the usual term of school education he was apprenticed to a bookseller. He had long shown a predilection for the study of painting, which in a few years he obtained the means of pursuing in London under the auspices of Benjamin West and Washington Allston. He arrived in England in 1813, and, after some attempts at historical painting on a large scale, commenced a class of subjects particularly adapted to display his powers, and in which for many years he had no superior among English artists. The great humorous authors of England became the chief source of his inspiration, and many familiar scenes from Shakespeare, Addison, Sterne, Pope, Goldsmith, Fielding, and Smollett have been illustrated by his pencil. From "Don Quixote," "Gil Blas," and Molière's plays he also drew the subjects of some of his happiest efforts. His "Anne Page and Slender," "Sir Roger de Coverley going to Church," "May Day in the Reign of Queen Elizabeth," and other pictures of the kind exhibited between 1820 and 1825, established his reputation, and within a few years he was elected an associate and a member of the royal academy. In 1833 he accepted the appointment of professor of drawing in the military academy at West Point; but after discharging the duties of the office for a few months he returned to England, where he resided until his death. In 1847 he became professor of painting at the royal academy, and the substance of lectures delivered by him during the 4 years that he held the office has been published under the

title of "A Handbook for Young Painters." He is also the author of a life of Constable the landscape painter. His works cover a period of between 40 and 50 years, and many have been engraved. Beside humorous subjects, he painted history, *genre*, portraits, and ceremonials, among the latter the "Coronation of the Queen" and the "Christening of the Princess Royal." His religious pieces are considered much inferior to his others. His earlier works are elaborately finished, and are distinguished by peculiar excellence in expression and composition, and a genial humor altogether original.—ELIZA, an American authoress, sister of the preceding, born in Philadelphia, Nov. 15, 1787, died in Gloucester, N. J., in 1857. She was the eldest child of her parents, whom she accompanied to England in 1793, and with whom she returned to the United States in 1800, subsequent to which time she resided almost constantly in Philadelphia. Her earliest attempts in literary composition were in verse, but it was not until her 40th year that she appeared before the public as an authoress. Her first work, "Seventy-five Receipts for Pastry, Cakes, and Sweetmeats," was the precursor of a series of treatises on the culinary art which have made Miss Leslie's name widely known. The "Domestic Cookery Book," published in 1837, has gone through 50 or 60 editions, and the "House Book" (1840) and the "Lady's Receipt Book" (1846) have enjoyed a considerable popularity. Shortly after the appearance of her first work she commenced a series of juvenile story books, and in 1831 published the "American Girls' Book," of which an edition is still printed every year. Having obtained from Mr. Godey, editor of the "Lady's Book," a prize for her story of "Mrs. Washington Potts," she was encouraged to write fictions for grown people, and for several years contributed to the magazines and journals, beside editing several annals. "Amelia, or a Young Lady's Vicissitudes," which first appeared in the "Lady's Book," is her only attempt at novel writing, her remaining works being short tales or sketches. Of these the most popular are the 3 volumes of "Pencil Sketches," of which a new edition was published in 1852. Beside these, several volumes of her fugitive stories, such as "Althea Vernon," "Henrietta Robinson," "Leonilla Lynmore," &c., have appeared from time to time. One of her latest publications is the "Behavior Book," and during the last years of her life she was engaged upon a life of John Fitch, the first American experimenter in steam navigation.

LESLIE, JOHN, a British prelate, born in Balquhain, in the north of Scotland, about 1570, died in Ireland in 1671. He was educated at the universities of Aberdeen and Oxford, and during an extended continental tour became an accomplished linguist. His knowledge of Latin was so remarkable that in Spain it was said of him: *Solus Lesleius Latine loquitur*. Upon returning to England, after an absence of 22 years, he enjoyed the favor of Charles I., who admitted him into his privy council, made him bish-

op of the Orkneys, and in 1683 bishop of Raphoe in Ireland. Here he built a palace of great strength, in which during the civil wars he sustained a siege by the parliamentary troops, being the last to surrender to Cromwell. He remained abroad until after the restoration, when he returned to England, and was appointed to the see of Clogher in Ireland. At the time of his death he was the oldest bishop in the world, having filled that station 50 years.—CHARLES, son of the preceding, a clergyman and theological author, born in Raphoe, co. of Donegal, Ireland, in 1650, died in Glaslough, co. of Monaghan, April 18, 1722. He was educated at Trinity college, Dublin, studied law and then theology, and took orders in 1680. By opposing the intrusion of a Catholic sheriff he involved himself in a conflict with the government of James II., but refused to take the oaths of allegiance to William after the revolution. In 1689 he engaged in a controversy with Bishop Burnet in defence of the doctrine of passive obedience. In 1709, being suspected by the government, he took refuge at the court of the pretender, but the prince forbade him to speak on the subject of religion either to himself or his chaplains. After the failure of the pretender's expedition, Leslie accompanied him to Italy, but was allowed to return to England in 1721. The most important and popular of his works is his "Short and Easy Method with the Deists," many times reprinted. A collection of his theological works has been published in 7 vols. 8vo. (Oxford, 1832).

LESLIE, SIR JOHN, a Scottish mathematician and physicist, born in Largo, Fifeshire, April 16, 1766, died at Coates, Fifeshire, Nov. 8, 1832. He was educated at the university of St. Andrew's and at that of Edinburgh, and while a student in the latter institution was employed by Adam Smith as tutor to his nephew, afterward Lord Reston. In 1788-'9 he was absent in America as tutor to two young Virginians of the Randolph family; and in 1790 he went to London with letters of recommendation from Dr. Smith and others, intending to establish himself there as a lecturer on natural philosophy. Disappointed in this project, he became a contributor to the periodicals, and, among other labors, translated for Murray the bookseller Buffon's "Natural History of Birds," published in 1793 in 9 vols. Subsequently he traversed large portions of the continent in the capacity of travelling tutor to Mr. Thomas Wedgwood, and, after being an unsuccessful candidate for professorships at St. Andrew's and Glasgow, offered himself in 1805 for the chair of mathematics in Edinburgh, vacated by the appointment of Prof. Playfair to be professor of natural philosophy. His election was opposed by a portion of the clergy on the ground that in politics as well as in religion he entertained dangerously liberal opinions; but the town council, with whom the appointment rested, nevertheless conferred the professorship upon him. The case was brought before the general assembly, and after an animated discussion of two days

was dismissed as "vexatious." Prof. Leslie occupied this chair until 1819, when he succeeded Prof. Playfair in that of natural philosophy, which he filled until his death, a few months previous to which he received the honor of knighthood. His scientific publications commenced with an "Essay on the Resolution of Indeterminate Equations," printed in the "Edinburgh Philosophical Transactions" for 1788; and in 1799 he contributed a description of a hygrometer and photometer invented by himself to Nicholson's "Philosophical Journal." His "Experimental Inquiry into the Nature and Propagation of Heat," published in 1804 (8vo.), attracted attention from the many new and important facts in this branch of physical science which it developed, as well as from its evidences of the vigorous and inventive genius of the author, whose occasional tendency to paradox alone impaired the scientific value of the work. It gained him the Rumford medal by the unanimous adjudication of the royal society, and established his reputation on a firm basis. In 1809-'22 appeared his "Course of Mathematics" (2 vols. 8vo.), comprising "Elements of Geometry," "Geometrical Analysis," "Plane Trigonometry," and "Geometry of Curve Lines;" an abridgment of a portion of this work was published in 1828, entitled "Rudiments of Plane Geometry, including Geometrical Analysis and Plane Trigonometry." He also published in 1817 the "Philosophy of Arithmetic," founded upon an article contributed to the "Encyclopædia Britannica." In 1810 he discovered the process of artificial congelation, by which he was enabled to freeze water and even mercury at pleasure, and 3 years later published in connection with the subject "A Short Account of Experiments and Instruments depending on the Relations of Air to Heat and Moisture." He also produced "Elements of Natural Philosophy," vol. i., "Mechanics and Hydrostatics" (1823; 2d ed. enlarged, 1829); and the "Progress of Mathematical and Physical Science during the Eighteenth Century," constituting the 5th dissertation in the 1st volume of the "Encyclopædia Britannica," for which work he wrote many articles on subjects connected with his departments of inquiry. He was a frequent contributor to the "Edinburgh Review" and a variety of scientific journals. As an experimenter he was almost unrivalled, and his apparatus room in Edinburgh contained many instruments of great elegance of form and delicacy of workmanship, invented by himself.

LESPINASSE, JULIE JEANNE ÉLÉONORE, a celebrated French woman, born in Lyons, Nov. 19, 1732, died in Paris, May 23, 1776. She was the illegitimate daughter of the countess d'Albon, and passed the first 15 years of her life in the house of her mother, on whose death in 1748 she accepted a place as governess in the family of her brother-in-law, Vichy-Chamrond, and in 1753 she was engaged as companion by her mother's sister-in-law, the marchioness du Deffand. This lady was D'Alembert's intimate

friend, and her house was a favorite resort of many eminent persons. Julie's remarkable intellectual qualities made a profound impression upon all who were brought in contact with her. Mme. du Deffand's jealousy became excited, and a separation between the two ladies ensued in 1764, Julie taking up her residence in the rue Bellechasse, which was provided with furniture by the munificence of Madame de Luxembourg. To the small annual income which had been bequeathed to her by her mother, a pension was added by the king. Her house soon became a great centre of attraction for the notabilities of Paris. She enlisted the regard of D'Alembert, Marmontel, La Rochefoucauld, and other eminent literary men, while even the fastidious Mme. Geoffrin made an exception in her favor, and not only admitted her to her literary reunions, from which women were generally excluded, but conferred upon her afterward an annuity of 3,000 francs. Without being a person of great learning, she possessed the secret of identifying herself with the thoughts of others, and was as expert in discussing metaphysics and philosophy as she was ready to indulge in humor and pleasantry. With D'Alembert her relation was fraternally intimate and enduring, but the warmth of her affections was reserved for the count de Mora, a Spanish nobleman, whose death plunged her into great affliction. Another object of love however soon presented itself in the person of Col. Guibert, celebrated for his relations with Frederic the Great, but this passion was not reciprocated. The letters of Mlle. Lespinasse, which were published at Paris in 1809, and at the same time in German at Leipsic, are the most interesting of her literary remains. She was an admirer of Richardson and Sterne, and the popularity of Sterne's works in France was in a great measure due to her influence.

LESSEPS, FERDINAND DE, a French diplomatist, born in Versailles in 1805. In 1825 he was attached to the consulate of Lisbon, and in 1828 to that of Tunis. After the taking of Algiers he was charged with the important task of securing the submission of the bey of Constantine, after which (1831) he went to Egypt, where at three different times he was temporary consul-general of Alexandria. He obtained from Ibrahim Pasha, during the occupation of Syria by the latter, protection for the Christians there, and did much toward re-establishing peace between Mehemet Ali and the sultan. He was appointed consul at Malaga in 1839, and at Barcelona in 1842. During the bombardment of the latter city by Espartero in the same year, he rendered great service to sufferers of all nations. He frequently exposed his life during the fighting to save the lives of others; his energetic remonstrances postponed the bombardment for several days, and when it took place he hired vessels and personally superintended the removal of fugitives. For this he received from the governments of France, Sardinia, the Two Sicilies, Sweden, the Netherlands, and Spain many decorations;

the chamber of commerce at Marseilles sent him a complimentary address, while that of Barcelona placed his bust in its hall. After the revolution of 1848 he was recalled to Paris, but soon left that city for Madrid as minister (April 10, 1848). Having been displaced for Prince Napoleon Joseph Bonaparte in Feb. 1849, he was sent to Switzerland, and in May to Italy, where he was expected to fulfil in concert with MM. D'Harcourt and De Rayvenal the very delicate and difficult task of restoring order in the papal dominions, and preventing liberal excesses from interfering with the establishment of a regular government. His instructions, it is asserted, were far from explicit, and his liberality in stipulating that the Roman people should be free to choose their own government was not agreeable to the authorities at home. He was accordingly recalled in June. In a report from the council of state he was severely blamed, but he defended himself with great ability. In Oct. 1854, he went to Egypt on the invitation of the new viceroy Mohammed Said. Here he thoroughly examined the project of the canal across the isthmus of Suez, and the viceroy granted him a charter for 99 years (Nov. 30, 1854; confirmed Jan. 5, 1856) for the establishment of a stock company for the execution of the canal, to be called *Compagnie universelle du canal maritime de Suez*. The seat of the company is at Alexandria, and the capital 200,000,000 francs, represented by 400,000 shares of 500 francs.

LESSING, GOTTHOLD EPHRAIM, a German critic and author, born in Camenz, Jan. 22, 1729, died in Brunswick, Feb. 15, 1781. His father, a clergyman, desired him to embrace his own profession, and at the age of 17 he went with this intention to the university of Leipsic. Already far advanced in the classics and mathematics, his restless and inquiring disposition soon diverted him from theology to various studies in literature and philosophy. He acquired a passion for the theatre, cultivated the friendship of actors, became familiar with dramatic literature, and produced some slight dramatic pieces. In 1750 he followed his friend Mylius to Berlin, and there established a quarterly periodical devoted to the drama, which was continued for one year, and published a volume of poems under the title of *Kleinigkeiten*. Until 1760 he lived either in Wittenberg, where he received the degree of master, in Potsdam, in retirement, in Leipsic, or in Berlin, being in the last city intimately associated with Moses Mendelssohn and F. Nicolai. He was constantly prosecuting literary projects during this period, translated from the Spanish Huarte's *Examen de los ingenios*, wrote literary and theatrical criticisms for the journals, published several volumes of minor writings, fables, epigrams, and songs, and completed the tragedy of *Miss Sara Sampson*, which contributed largely to free German literature from the prevalent imitation of that of France, and to give it a new and original character. To the same end he edited with Nicolai and Mendelssohn the

Bibliothek der schönen Wissenschaften, a literary periodical, and founded in conjunction with Nicolai the *Literaturbriefe*. He was the soul of this publication, which by its bold and acute criticism exercised a wide influence on German literature. Lessing was the first to call attention in that journal to the genius of Kant, Hamann, and Winckelmann. At the same time he opposed Klopstock and Wieland, striving to purge religion from sentimentality and literature from frivolity. He began also a tragedy, of which the subject was the story of Virginia, which was completed in 1772 under the title of *Emilia Galotti*, the Roman Virginia being transferred into modern relations. This still remains one of the most admirable tragedies on the German stage. In 1760, after being elected to the Berlin academy of sciences, he went to Breslau as secretary to Gen. von Tauenzien, governor of Silesia. His object was to gain new experience of life in this official relation, and though he employed his pen industriously, he formed a passion for play at faro. The best fruit of his residence in Breslau, which continued till 1765, was his most faultless drama, *Minna von Barnhelm*, in which the victorious career of Frederic the Great of Prussia appears prominently. Returning to Berlin, he published there (1766) his masterpiece, entitled *Laokoon, oder über die Grenzen der Poesie und Malerei*, a work which has exerted a permanent influence upon both literary and artistic criticism. In 1768 he accepted an invitation to become director of a theatre at Hamburg, where he published his *Dramaturgie* (2 vols., 1768), a critical periodical, which played an important part in the strife then prevalent in Germany as to the relative merits of the French and English drama. He became intimate with his subsequent antagonist the pastor Götze, and had an extensive literary correspondence. With I. I. C. Bode he conceived a futile plan of a "bookshop for scholars." He was prosecuting his studies in classical literature and art, and meditating a journey to Italy, when in 1770 he received from Prince Ferdinand of Brunswick the appointment of chief librarian at Wolfenbüttel, "rather that the library might serve him than he the library." He employed himself diligently in exploring the literary treasures in the collection, and discovered the long lost work of Berengarius on the Lord's supper. In 1774 appeared the first of the *Wolfenbüttelsche Fragmente eines Ungenannten*, a manifesto against the historical basis of Christianity, written by the Hamburg professor Reimarus, but published and defended by Lessing. His principal opponent was his friend Götze, against whom he directed his admirably satirical *Antigötze*. His love of intellectual independence and impatience of authority appear from his declaration that if truth were offered him with one hand and error with the other, he would prefer error that he might have the pleasure of seeking after truth. He gave his confession of faith in a poetical and dramatic form in his *Nathan der Weise* (1779),

the principal characters in which are a Jew, a Christian, and a Mohammedan, who vie with each other in tolerance, charity, and respect for the universal dogmas of morality. His last literary labor was the *Erziehung des Menschengeschlechts* (1780), an important contribution to the philosophy of history. His later years were engrossed by theological, antiquarian, and literary controversies, in which he took an eager delight as long as the vigor of his mind remained. Exhausted by labor, grieving for the loss of his wife, whom he had married in 1773, and who died in giving birth to his first child, which died with her, his health and spirits began in 1779 slowly to decline, and toward the close of his life he struggled in vain against frequent fits of cheerlessness and somnolency. He was an original and peculiar character, and was better appreciated by the next generation than by his own. Perhaps no one man has done more to confer on German literature its present many-sided character, or to strengthen German criticism by a study of art. "To advance the standard of intellectual culture was his great aim, and to effect this he studied art, theology, antiquities, poetry, the drama, and history; all with the same enthusiasm and for the same purpose." Schlosser, in his "History of the 18th Century," says: "Lessing had this great advantage over others, who, after him, enriched the German language, German literature, and German life from the pure and genuine sources of the ancients, and particularly of the Greeks, that he wrote always simply, soberly, and impressively after their model. He disdained all the miserable means of egotistical souls to procure for himself a name; he neither made parties, cringed about courts, nor revelled in a little brief authority, and was neither the organ of an academy nor university." He has frequently been called the Luther of German literature, of the German drama, and of German art.—The first complete edition of his works appeared in Berlin (80 vols., 1771-'94), and an excellent edition was edited by Lachmann (13 vols., Berlin, 1888-'40). Concerning his life and character, see F. Schlegel, *Lessings Gedanken und Meinungen* (3 vols., Leipsic, 1804); Danzel, *G. E. Lessing, sein Leben und seine Werke* (1st vol., Leipsic, 1850; completed by Guhrauer); and Adolf Stahr, *G. E. Lessings Leben und Werke* (1859). An English translation of his *Laokoon* by E. O. Beasley was published in London in 1853, a translation of his *Erziehung des Menschengeschlechts* in 1858, and a new translation of *Nathan der Weise* by Dr. Reich in 1860. His fables and several of his comedies have also been translated.

LESSING, KARL FRIEDRICH, a German painter, grand-nephew of the preceding, born in Wartenberg, Silesia, Feb. 15, 1808. His father, an officer of the Prussian government, placed him when about 12 years of age in the gymnasium of Breslau, with a view to his studying the natural sciences. Such was his backwardness in the ordinary academic studies, how-

ever, that at the end of two years his teachers advised the father to allow the boy to follow his evident predilection for art, and become a painter. He was accordingly sent about 1822 to the architectural school of Berlin, to fit himself for an architect, his father distrusting his ability to support himself in any other walk of art. The instructions of Professors Rösel and Dähling aroused in the young man, however, an invincible love for painting, and after a severe struggle between duty and inclination, he yielded to the latter, and by the production of his "Churchyard with Gravestones and Ruins" (1825) fixed his profession irrevocably. This picture produced a strong impression, and for a year or two the artist devoted himself to landscape; but coming under the influence of Schadow, he established himself in Düsseldorf, and studied historical painting with an enthusiasm and success which soon caused him to be considered the most promising pupil of the new German school of which that master was an exemplar. Within a few years he produced a number of spirited works, including the cartoon of "The Battle of Iconium;" "The Castle by the Sea;" "The Mourning King and Queen," the head of the king being painted from that of Schadow; "The Robber;" "The Court Yard of the Convent—a Snow Scene," perhaps the most striking of all his landscapes; a "Scene from Leonore," &c. Subsequent to 1832 he entered upon a new style of treatment, substituting for the severe spirit in which his previous works had been conceived, an earnest realism and an affluence of fancy which severed him completely from the school of Schadow, Veit, and their co-religionists. To landscape painting he also gave renewed attention, and some of his most imaginative works in this department of art, including his "Scene in the Eifel," are referred to this period of his life. "The Tyrant Ezzelin in Captivity refusing the Exhortations of the Monks," exhibited in 1838, was his first important historical picture in the new style. It was followed by "Huss before the Council of Constance," the "Seizure of Pope Pascal II.," the "Martyrdom of Huss," now in the city of New York, and many others, under the influence of which the school of Düsseldorf has divested itself of the strictly Catholic spirit by which it was previously characterized, and has adopted a bolder and more dramatic manner, and a greater freedom in the choice of subjects. Lessing however is distinguished from his associates by depth of thought, energy of expression, and vivid dramatic conception, at the same time that his pictures exhibit the hardness of outline and defective coloring peculiar to the Düsseldorf school. He has recently been appointed president of the academy of painting at Karlsruhe.

LESTER, CHARLES EDWARDS, an American author, born in Griswold, Conn., July 15, 1815. He is descended on his father's side from the Lesters or Leicesters of England, and on his mother's from Jonathan Edwards. Before the

completion of his classical studies he was obliged to travel for his health, and passed 3 or 4 years chiefly in the South and West of the United States, being engaged for one year of this time in the study of law in Mississippi. He was admitted to the bar, but after his return home determined to devote himself to the ministry, spent 2 years at the Auburn theological seminary, and was duly ordained. The pulpit however proved not more congenial to his tastes than the bar, and he employed his time chiefly with the pen. In 1840 he visited Great Britain, and soon after was appointed U. S. consul at Genoa, where he remained 6 years. Since his return from Europe he has resided in New York, dividing his attention between literature and the law. Beside contributing largely to the American and European periodical press, he has edited various journals and magazines, and is the author of the "Glory and Shame of England" (3 vols. 12mo., New York, 1841); "Condition and Fate of England" (1842); "The Artist, Merchant, and Statesman" (1846); "Life and Voyages of Americus Vesputius" (8vo., 1846); "Artists of America" (1846); "My Consulship" (2 vols. 12mo., 1851), and other works. He has published translations of Alfieri's "Autobiography" (12mo., New York, 1845), Massimo d'Azeglio's "Challenge of Bartolotta" (1845), and Macchiavelli's "Florentine Histories" (2 vols. 12mo., 1846).

LESTOCQ, JEAN HERMANN, count, a physician and favorite of Elizabeth, empress of Russia, born in Zell, Hanover, April 29, 1692, died in Livonia, June 12, 1767. He was the son of a French Protestant surgeon who had left his native country on the revocation of the edict of Nantes. He studied medicine, and when 21 years old went to Russia to seek his fortune. He was first employed by Peter the Great, who, being soon disgusted with the shameless laxity of his morals, sent him an exile to Kasan in 1718. Catharine I., on her accession in 1725, recalled him, and appointed him physician in the household of her 2d daughter Elizabeth. He soon gained an influence over the mind of this young princess, and when the imperial title devolved upon Ivan VI., he persuaded her that the only way of saving her own life was to seize upon the crown. She yielded to his suggestions, appealed to the regiment of Preobrajenski, Nov. 25, 1741, made the young czar prisoner, and seated herself on his throne. Lestocq, who had been the most active promoter of the revolution, was appointed privy councillor, which gave him the rank of general, physician in ordinary to her majesty, and president of the medical college. He also received a pension of 7,000 rubles, and the portrait of the empress set with diamonds. His prosperity lasted but a few years. Charged by the chancellor Bestoujeff with treasonable projects, he was arrested with his wife, confined in the citadel of St. Petersburg, tortured, and exiled to Siberia. Peter III., on his accession, gave orders for his recall; but his property was not restored to him.

Catharine II. bestowed upon him a small estate in Livonia, where he lived in poverty.

L'ESTRANGE, SIR ROGER, an English political writer, born at Hunstanton hall, Norfolk-shire, in 1616, died in London, Dec. 11, 1704. He was the youngest son of Sir Hamond L'Estrange. He is believed to have been educated at Cambridge; it is however known that he received a university education previous to attending King Charles in 1639 in his expedition against the Scots. During the civil war he was a zealous royalist, and in 1644, soon after the earl of Manchester had reduced the town of Lynn in Norfolk, L'Estrange received a commission from the king appointing him governor of the place if he could take it. This he attempted to do, but failed through the treachery of two of his associates, and being taken prisoner was sent to London, where he was condemned to death as a traitor. He was however reprieved, and remained a captive 4 years, until in 1648 he escaped and fled to Kent. Here he attempted to raise an insurrection, but failing in this fled to the continent, where he remained until the dissolution of the long parliament (1653), when he returned to England, claiming that he was entitled to the benefit of the act of indemnity. His claim was not allowed; but having the boldness to apply to Cromwell in person, he received his discharge. After the restoration he received the lucrative though unenviable appointment of licenser or censor of the press. In 1663 he started a newspaper called the "Public Intelligence," in which he warmly supported the crown. After the popish plot he published another newspaper called the "Observer," which was intended to vindicate the measures of the king and court. On the accession of James II. he was knighted, and sat in the parliament of 1685. He lost his office of censor at the revolution, and shortly after his mind failed him. He wrote a great number of political pamphlets, in a coarse, vulgar, and violent style, and made translations from Josephus, Æsop, Cicero, Seneca, Erasmus, &c.

LE SUEUR, a S. E. co. of Minn., bounded W. by St. Peter's river, and drained by Le Sueur river; area, about 500 sq. m.; pop. in 1857, 3,610. It has an undulating surface and fertile soil. Capital, Le Sueur.

LESUEUR, EUSTACHE, a French painter, born in Paris in 1617, died there in 1655. He was a pupil of Vouet, and it is probable that he received advice and encouragement from Poussin on his visit to Paris. He assisted Vouet in some works ordered by Cardinal Richelieu, but he remained unnoticed. Having married in 1642, he was obliged to support his family by designing frontispieces of books, devotional pictures, &c. His masterpiece, "St. Paul healing the Sick by the Imposition of Hands," attracted much attention, and gained for him the surname of the "French Raphael." His grace of touch and composition is conspicuous in a series of 19 pictures which he executed in the drawing room of the Hôtel Lambert, known as *Le salon des Muses*; but the

peculiar character of his genius is still more thoroughly displayed in the 22 pictures representing the "Life and Death of St. Bruno."

LE SUEUR, JEAN FRANÇOIS, a French composer, born in Druacat-Plessiel, near Abbeville, Feb. 15, 1760, died in Paris, Oct. 6, 1837. He was educated in Amiens, where he acquired a considerable knowledge of the theory of music, and at 26 years of age was appointed chapelmaster of Notre Dame in Paris. In 1795 he became one of the inspectors of studies in the *conservatoire de musique*; in 1804, at the suggestion of Paisiello, who was about to return to Italy, chapelmaster to Napoleon, which office he held until the restoration; and in 1814 royal director of music and chapelmaster. He is the author of 5 operas very celebrated in their day: *La caverne* (1793), *Paul et Virginie* (1794), *Télémaque* (1796), *Les bardes* (1804), and *La mort d'Adam* (1809). He also wrote other pieces for the stage, and over 30 masses, oratorios, and sacred compositions, beside a highly esteemed work on the music adapted to sacred solemnities.

LESZCZYNSKI. See STANISLAS LESZCZYNSKI.

LETCHER, an E. co. of Ky., bordering on Va., bounded S. E. by the Cumberland mountains, and drained by the head waters of the Kentucky river; area, about 300 sq. m.; pop. in 1850, 2,512, of whom 62 were slaves. The surface is mountainous and the soil fertile in the valleys. The productions in 1850 were 86,718 bushels of Indian corn, 8,092 of oats, 3,122 lbs. of tobacco, and 8,370 of wool. There were 8 churches, and 298 pupils attending schools. Capital, Whitesburg.

LETHE, in Grecian mythology, the personification of oblivion. It was also a stream of silver clearness in Hades, from which the shades drank forgetfulness of their earthly life, or at least of all their sorrows. According to Virgil, also, those souls destined to return to new bodies on earth drank of its waters, in order to forget the joys of Elysium.

LETO. See LATONA.

LETRONNE, JEAN ANTOINE, a French archæologist and critic, born in Paris, Jan. 2, 1787, died there, Dec. 14, 1848. His father, an engraver, placed him at an early age in the studio of David, and had him instructed in the ancient languages, intending him for the polytechnic school. But the death of his father obliged him to renounce this purpose. Mentelle, professor of geography, then obtained for him employment, as well as instruction in Latin and mathematics. Such was his industry that from the age of 14 he supported his mother and aided his brother to complete his studies as a painter. As soon as he was able he resumed his own studies, and while yet a youth became well known among the learned by his numerous resitations of disputed passages in classic writers. From Oct. 1810, to June, 1812, he travelled in France, Italy, and Switzerland, and after his return his edition of the work of Dicuil on the measurement of the earth, and an article on the Pausanias of Clavier, caused him to be chosen

by government to complete the translation of Strabo, begun by Laporte Duthail. In 1816 he became a member of the academy of inscriptions. He was appointed director of the school of charters in 1817, inspector-general of the university in 1819, and professor of history in the college of France in 1831. In 1832 he became keeper of antiquities in the royal library. In 1838 he was appointed administrator of the college of France and professor of archaeology, and in 1840 succeeded Daunou as keeper of the archives of the kingdom. He was also a member of the principal literary and scientific societies of Europe. He was distinguished by his refutation of the assertions of Dnpuis and others relative to the "zodiacs" discovered at Esneh and Denderah, in which he showed that, instead of belonging to an inconceivably remote antiquity, the zodiacs in question were no older than the days of the Omars. His great work, the *Recueil des inscriptions Grecques et Latines de l'Égypte* (2 vols. 4to., Paris, 1842, 1848), was unfinished at the time of his death. Alexander von Humboldt refers in his *Kosmos* to Letronne's labors, who he says proves in his *Statues vocales de Memnon* that earthquakes were by no means so rare as was supposed in the valley of the Nile.

LETTER OF MARQUE. See PRIVATEER.

LETTRES DE CACHET. See CACHET.

LETTUCE (*lactuca sativa*, Lindley), a garden vegetable of the natural order *compositæ*, and probably introduced from India, but its native country is a matter of uncertainty. The lettuce is familiarly known as a salad plant, under many names, as the oak-leaved (*L. quercina*), the prickly (*L. scariola*), and the endive-leaved (*L. intybea*). The garden or salad lettuces are arranged in two divisions, viz.: the upright, oblong, or Cos lettuces, and the round-headed, spreading, or cabbage lettuces. The different species last mentioned have upright stems or stalks, with sharply defined, lanceolate, or elongated foliage, and may have given rise to the Cos varieties; while the cabbage lettuces may possibly retain the peculiar shape of some original species which we designate as *L. sativa*. The Cos lettuces require to be blanched, bringing the leaves together by means of some soft strings; and when so treated they are considered remarkable for juiciness, crispness, and freedom from bitter flavor. In our market gardens the cabbage or head lettuces are preferred, and the Cos are seldom seen. The generic name *lactuca* is derived from the Latin *lac*, milk, the plants abounding in a milky sap which flows out from them readily when they are wounded or cut. This, in an inspissated form, has properties not dissimilar to opium. Both the wild and cultivated kinds furnish a copious supply, which, when collected as opium is from poppies, produces the narcotic called *lactucarium*. A species native of the Caucasus (*L. altissima*, Bieb.), according to Aubergier, furnishes the best. Its administration in medicine is not followed by those depressing and distract-

ing symptoms which often attend the exhibition of opium. The process of blanching as well as the rapid growth of garden lettuces diminishes their narcotic properties. They may be boiled while tender and succulent for pot herbs.

LEUCADIA. See SANTA MAURA.

LEUCHTENBERG, DUKE OF. See BEAUHARNAIS, EUGÈNE DE.

LEUCIPPUS, a Greek philosopher, who probably lived in the 5th century B. C. Elis, Abdera, and Miletus alike claimed to be his birthplace. He is said to have been the disciple of Pythagoras, Melissus, and Zeno, and the teacher of Democritus, who learned from him the first principles of the atomic theory. No details concerning his life have been preserved.

LEUCOTHEA. See Ixo.

LEUCTRA, a village of ancient Greece, in the Boeotian territory, between Thespiæ and Platæa, celebrated for a victory obtained in its vicinity in 871 B. C. by the Thebans over the Spartans. (See EPAMINONDAS.) Leuctra had ceased to exist even in the age of Strabo, but its site is still clearly marked by a tumulus which occupies an eminence to the S. of the Thespian vale.

LEURET, FRANÇOIS, a French anatomist, born in Nancy in 1797, died in Paris, Jan. 6, 1851. At the end of a year after commencing his medical studies his father refused to him the means of further support, and François in despair enlisted as a private soldier. His regiment being stationed in France, he attended the lectures of Esquirol. A fellow student procured his discharge from the army, and obtained a situation for him as paid assistant in the insane hospital of Royer-Collard at Charenton. In a few months he was appointed one of the *internes* of that institution, and before receiving his degree published several medical essays, one of which received the approval of the academy of sciences, before which it was read. In 1826 he took his degree and returned to Nancy to practise, but in less than a year he came back to Paris, became the assistant of Esquirol, and was installed as editor of the "Annals of Hygiene and Legal Medicine." In 1831 he published an essay on the cholera of that year. In 1832, in connection with two of his friends, he published a series of observations on the frequency of the pulse in the insane, and another on measurements of the head. In 1834 appeared his "Psychological Fragments," a work which gained for him a high reputation. In 1839 he published "Comparative Anatomy of the Nervous System considered in Connection with Intelligence," and in 1840 a work on the "Moral Treatment of Insanity." These raised him at once to the first rank among modern anatomists and psychologists, and led to his appointment as director-in-chief of the Bicêtre. In his "Indications to be followed in the Moral Treatment of Insanity" (1846), some of his earlier opinions were modified.

LEUTZE, EMANUEL, an American painter, born in Gmünd, Würtemberg, May 24, 1816.

His parents emigrated in his infancy to Philadelphia, where his youth was passed. It was while attending at the sick bed of his father that he first attempted drawing to beguile his leisure moments. The talent thus developed was assiduously cultivated, and he soon acquired facility in taking likenesses, and even projected a plan of publishing in Washington portraits of eminent American statesmen, which, however, met with little encouragement. His first decided success in painting was a picture representing an Indian gazing at the setting sun, which procured him so many orders that in 1841 he was enabled to carry into effect a long cherished desire to study his art abroad. He proceeded at once to Düsseldorf, and became one of the pupils of Lessing, under whom he made rapid progress. His first work in Europe, "Columbus before the Council of Salamanca," was purchased by the Düsseldorf art union; and a subsequent work representing Columbus in chains procured him the medal of the Brussels art exhibition; it afterward became the property of the New York art union. In 1843 he studied the works of Cornelius and Kaulbach at Munich, and finished while there his "Columbus before the Queen." He next visited Venice and Rome, making careful studies of Titian and Michel Angelo, and after a lengthened tour in Italy returned in 1845 to Düsseldorf, where he married and took up his residence. He thenceforth devoted himself principally to historical subjects, in the execution of which he adhered to the manner of the Düsseldorf school. Among his best works, beside those enumerated, are the "Landing of the Norsemen in America," "Cromwell and his Daughter," "The Court of Queen Elizabeth," "Henry VIII. and Anne Boleyn," "The Iconoclast," &c., some of which are of large dimensions. In the United States, where his paintings are widely disseminated, he is best known by a series illustrating striking events in the war of the revolution, of which the most important are, "Washington crossing the Delaware," "Washington at Monmouth," "Washington at the Battle of Monongahela," "News from Lexington," "Sergeant Jasper," and "Washington at Princeton," the last being one of his latest and most popular works. The "Washington crossing the Delaware" has been engraved. In 1859, after an absence of many years, he returned to the United States, where he now resides.

LE VAILLANT, FRANÇOIS, a French traveler, born in Paramaribo, Dutch Guiana, in 1753, died Nov. 22, 1824. His father, a merchant and consul at Paramaribo, returned to Europe when his son was 10 years of age, and finally fixed his residence in Paris. For several years the son studied natural history, and went to the Cape of Good Hope, where he arrived March 29, 1781. After making an expedition into the interior of Africa, penetrating as far N. as the tropic of Capricorn, he returned to Paris in 1785, and published a narrative of his adventures in two successive works: *Voyage dans*

l'intérieur de l'Afrique, de 1781 à 1783 (Paris, 1790), and *Second voyage dans l'intérieur de l'Afrique* (Paris, 1796). His African adventures were greatly though unjustly discredited. Though not concerned in politics, he was arrested as *suspect* in 1793, and owed his escape from death to the downfall of Robespierre. He passed the remainder of his life on a small estate in Champagne, occupied principally with hunting and writing. He published during this time 12 volumes, mostly folio, on the birds of Africa, in magnificent style with costly illustrations. A part of his valuable collection of animal specimens was purchased by the French government, and the rest was sold in Holland.

LEVANT, a term used by the seafaring and commercial people of the countries bordering on the Mediterranean to designate the portion of that sea which washes the shores of Asia Minor and Syria, and the harbors of Smyrna, Alexandretta, Beyrout, Acre, &c., which in the local dialect are called *Scas di Levante*. The heterogeneous population of those parts, who speak in their intercourse with Europeans the language known as the *lingua Franca*, are styled Levantines. The term *Levante*, which in Italian signifies "the East," was first used by the Venetians and Genoese.

LEVEE (Fr.), an embankment raised on the margin of a river to prevent inundation. That part of Louisiana which lies on the lower Mississippi was subject in a state of nature to the annual overflow of the river, by which immense damage was done to the land. To guard against these inundations, levees of earth have been thrown up for hundreds of miles along the river banks, to a height sometimes of 15 feet, with a breadth of 30 feet at the base. In front of New Orleans the levee is very broad, and serves as a wharf, steamboats and other vessels being moored to it. Breaches sometimes occur in the levees, when the water rushes through and does great mischief; these breaches are called crevasses.

LEVEL, a term applied to a surface which is everywhere perpendicular to the plumb line. The apparent level at a place is a plane touching a level surface at that place. There are various ways of determining level surfaces and level lines for practical purposes. The most simple is by means of a plumb line. The next to this is the use of a tube turned up at each end and filled with water, the two surfaces of the water in the ends of the tube taking naturally the same level. The most convenient means of finding a level is the spirit level, consisting of a bubble of air in a vial of alcohol. The vial, if we may call it so, is laid upon its side, and its inner upper surface is very slightly concave. The bubble seeks the highest part of the concavity, and the instrument is level when this is found in the centre. In determining the level of mountains, the barometer is frequently used, and with proper precautions gives accurate results; the mercury falling when carried higher, as it then has a less depth of air above it. The temperature of boiling water also affords a rough

means of estimating differences of level, inasmuch as it varies with barometric pressure.

LEVER. See MECHANICS.

LEVER, CHARLES JAMES, an Irish novelist, born in Dublin, Aug. 31, 1806. He was educated at Trinity college, Dublin, subsequently studied in Göttingen, and was admitted to practice as a physician. During the prevalence of the cholera in Ireland in 1832 he held the appointment of medical officer of a district comprehending Londonderry and other places, and effected many remarkable cures. He was afterward for 8 years physician to the British embassy at Brussels, where he wrote his "Confessions of Harry Lorrequer," originally published in parts, which made a favorable impression by its vivacity and humor, and happy pictures of Irish people and manners. It was the precursor of a long line of novels distinguished chiefly by the same characteristics, including "Charles O'Malley," "Jack Hinton," "Tom Burke," "Our Mess," "The O'Donoghue," "Roland Cashel," "The Knight of Gwynne," "The Daltons," &c. In many of these the incidents and characters are connected with the military profession, and the favorite type of a hero is a young dragoon or guardsman full of animal spirits and love of adventure, not a few of whose exploits are said to be founded on the personal experience of the author, who in his youth was noted for his daring spirit and his skill in riding and breaking horses. In 1842, while living near Dublin engaged in writing novels, he assumed for a time the direction of the "Dublin University Magazine," to which, as well as to other periodicals, many of his minor anonymous works have been contributed. Among the best of these are "Maurice Tiernay," "Con Oregan," "Diary of Horace Templeton," &c. Since 1845 he has resided with his family in Florence. He has not for many years practised his profession. His last work is "One of Them," now publishing monthly.

LEVERETT, FREDERIO PERCIVAL, an American classical scholar, born in Boston in 1808, died there in 1886. He was a descendant of Sir John Leverett, one of the governors of the colony of Massachusetts, and others of his ancestry were distinguished in colonial history. Entering Harvard college at the age of 14, he was graduated with honors in 1821, and was immediately afterward, when 18 years of age, appointed an usher in the public Latin school of Boston, an institution then as now preëminent for the thoroughness of its classical training. He was successively advanced to the positions of sub-master and of principal; but finding his health inadequate to the discharge of his duties, he resigned his mastership and opened a private classical school, which proved highly successful. The comparative leisure which he thenceforth enjoyed enabled him to give more attention to literary pursuits, and he published editions of Cæsar's "Commentaries," Juvenal, and the *Viri Romæ*, to be used as text books in schools, and also a "New Latin Tutor."

VOL. X.—31

The chief work of his life, however, and that to which he devoted the most time and thought, was the preparation of his "Lexicon of the Latin Language, compiled from the Lexicons of Facciolati and Forcellini, Scheller, Lünemann and Freund," which appeared in Boston in 1837, and which for nearly 20 years remained the standard work of its class in the United States. His health failed rapidly toward the completion of his labors on this work, and the last sheet went to press on the morning of his death. He had already collected materials for a Greek lexicon of similar plan and size.

LEVERETT, SIR JOHN, governor of the colony of Massachusetts, born in England in 1616, died in Boston, Mass., March 16, 1679. At the age of 17 he emigrated to America with his father, and settled in Boston. He returned to England in 1644 for the purpose of taking part in the struggle between the parliament and the king, and as commander of a company of foot soldiers gained military distinction and the friendship of Cromwell. He subsequently resided some years at the court of the protector, as agent of Massachusetts. On his return to America he held successively some of the most important civil and military offices in the gift of the colony, and finally in 1673 was elected governor. His administration is important in colonial history as the era of the war with King Philip, which Gov. Leverett's skill and energy were instrumental in conducting to a fortunate issue. Two years previous to his death he was knighted by Charles II. in acknowledgment of his services to the New England colonies during this contest. He died in office.—JOHN, grandson of the preceding, born in Boston in 1662, died May 3, 1724. He was an eminent lawyer and judge, speaker of the colonial legislature, and president of Harvard college from Jan. 1707, until his decease. He was a man of unusual attainments, and received the honor, then rarely bestowed upon colonial subjects, of membership in the royal society.

LEVERRIER, URBAIN JEAN JOSEPH, a French astronomer, born in St. Lô, March 11, 1811. He studied successively at the college of St. Lô, at Caen, and at the college of Louis le Grand in Paris. In 1831 he was admitted to the polytechnic school, where he was graduated. He then obtained a place in the tobacco bureau, and as his new occupation required some knowledge of chemistry, he pursued that science at leisure, and published in 1837 two memoirs on the combinations of phosphorus with hydrogen and oxygen. He devoted himself, however, principally to mathematics, and soon obtained a minor appointment in the polytechnic school. From this time he studied continually the highest problems in speculative astronomy, investigating especially the irregularities manifested in the course of the heavenly bodies. Two memoirs on this subject, supporting the observations of Lagrange, and asserting that the masses of the planets Jupiter, Saturn, and Uranus were sufficient to insure the stability of the

solar system, were submitted in 1839 to the academy of sciences. These and some other writings attracted the friendship of Arago, who induced him to study closely the orbit of Mercury and its perturbations. In 1844 he presented to the academy a theory of the periodical comet of 1770, and a paper on that of 1843. These contributions to science obtained for him admission to the academy of sciences, to the astronomical section of which he was elected, Jan. 19, 1846. The success which had attended his calculations of the course of the planet Mercury induced him to revise the still more imperfect tables of Uranus. His studies on this subject convinced him that the movements of this planet could not be explained by the attraction of any known bodies, and he accordingly sought further for the cause of its perturbations. Finally, on June 1, 1846, he indicated to the academy of sciences within 10° the place where a new planet might be seen on Jan. 1, 1847. This was in fact done by the German astronomer Galle, who discovered it, however, Sept. 23, 1846. Leverrier had made an error, but only of 2°. The sensation excited by this discovery was immense, and Leverrier received abundant honor. The king of Denmark sent him the order of the Dannebrog; most of the academies of Europe inscribed his name on their lists; Salvandy, the minister of public instruction in France, had his bust erected in public with great ceremony; Arago declared that the new planet should be called Leverrier; a chair of mathematical astronomy was created for him at the faculty of sciences; the royal society of England sent him the Copley gold medal, and the grand duke of Tuscany a splendidly bound copy of the works of Galileo. It is true that the planet only bore for a time the name of Leverrier, that of Neptune being subsequently given to it, but even this honor could hardly have added much to the renown of one whose name is so closely identified with it. The priority of discovery was however contested by a distinguished young English geometrician at St. John's college, Cambridge, Mr. Adams, who had arrived at the same conclusion about the same time, but who was less fortunate than his French rival in making it known to the world. E. C. Otté, the translator of Humboldt's *Kosmos*, remarks on the subject: "By a singular coincidence, Mr. Adams of Cambridge had predicted the appearance of the planet simultaneously with Leverrier; but by the concurrence of several circumstances much to be regretted, the world at large were not made acquainted with Mr. Adams's valuable discovery until subsequently to the period at which Leverrier published his observations. As the data of Leverrier and Adams stand at present, there is a discrepancy between the predicted and the true distance, and in some other elements of the planet; it remains therefore for them or future astronomers to reconcile theory and fact, or perhaps, as in the case of Uranus, to make the new planet the means of leading to yet greater discoveries." Alexander von Hum-

boldt himself says (*Kosmos*, vol. iv.): "I dare scarcely allude in this work to the certainly earlier labors of the distinguished and acute English geometrician Mr. Adams. The historical facts which refer to these labors, and to Leverrier's and Galle's happy discovery of the new planet, have been incontrovertibly and impartially developed from reliable sources in two works by the astronomer royal Airy and by Bernhard von Lindenau." In 1848 M. Leverrier made some ineffectual efforts to distinguish himself as a democratic leader, but it was not until 1849 that he was elected from La Manche to the legislative assembly. He modified his liberal views, took his place among the counter-revolutionary members, and occupied himself principally with questions of public instruction and with laws relative to scientific discoveries. He was in consequence appointed to prepare several important reports relative to the construction of electric telegraphs, the organization of the polytechnic school, and recruiting for the corps of engineers. When a decided division into parties took place in the assembly, Leverrier joined the imperialists. After the *coup d'état* of Dec. 2, 1851, he was appointed senator, and some time after inspector-general of public instruction. Since then he has exerted a decided influence on public instruction in France, particularly with regard to the polytechnic school. In 1849-'50 he read to the academy of sciences an account of new investigations into the movements of the planets, and in 1858 presented to it tables of the sun's rotation, with the complete system of the small planets situated between Mars and Jupiter. In 1858, on the death of Arago, Leverrier succeeded to the title and authority of director of the observatory. He has of late years been much occupied in urging upon government a reform of the old method of observations, which has caused much dispute between himself and his colleagues. In Sept. 1859, M. Leverrier communicated to the academy of sciences a movement of the perihelion of Mercury which could be accounted for only by the supposition of another planet, or perhaps a series of small bodies, moving between it and the sun. This communication called forth Dr. Lescarbault's revelation of a discovery which he had made at Orgères as early as March 25, 1859, of a new planet, and which was announced through Leverrier to the academy of sciences in the beginning of 1860. (See LESCOARBAULT.)

LE VERT, OCTAVIA WALTON, an American authoress, born in Georgia about 1820. She is a granddaughter of George Walton, one of the signers of the declaration of independence. Her father removed to Pensacola in 1821, having been appointed territorial secretary for Florida, under Gen. Jackson as governor. On the retirement of Jackson from that office, Mr. Walton acted for a time as governor of the territory. Although his daughter's education was exclusively domestic and confined to Pensacola, she not only became a proficient in the French,

Spanish, and Italian languages, but obtained some knowledge of Latin and Greek, as well as of the sciences. At a very early age she was often called upon by her father to translate documents from the French and Spanish languages, which were then spoken by most of the inhabitants of Florida. In 1832 she left Pensacola to spend the winter in Augusta. While travelling in a stage coach through what was then the wild region of Alabama, in company with her brother, she formed the acquaintance of a fellow passenger, who proved to be Washington Irving. This acquaintance was the foundation of a friendship that continued throughout the remainder of Mr. Irving's life. Miss Walton spent the winter of 1833-'4 in Washington, and, during the debates upon the removal of the deposits, was in the habit of writing out reports of the principal speeches delivered in the capitol. These were so admirable, notwithstanding her youth, that, it is said, Mr. Clay, Mr. Calhoun, Mr. Webster, Mr. McDuffie, and Mr. Preston were all in the habit of calling to read, from her portfolio, the reports of their own speeches. In 1836 she was married to Dr. Henry S. Le Vert, a physician of Mobile, of which city she has since been a resident. Within a few years past she has made two visits to Europe, the results of which have been given to the world in her "Souvenirs of Travel" (1857). The idea of this work was suggested to the authoress by M. de Lamartine. She has for some years been a contributor to various American and English periodicals, and is now engaged upon a work embodying her "Souvenirs of Distinguished Americans."

LEVI, 8d son of Jacob and Leah, born in Mesopotamia. He and his brother Simeon caused the massacre of the Shechemites and the pillage of their city to avenge the wrong done to their sister Dinah (Gen. xxxiv. 25-29). This action displeased their father Jacob, and they therefore had no allotment in the division of Canaan, and their descendants were dispersed among the other tribes. The children of Levi were, however, set apart for the sacerdotal office, and were endowed with privileges and dignities above the other tribes. Moses and Aaron were of his tribe.

LEVIATHAN, the English form of a Hebrew word used in the Old Testament, probably applicable to any huge marine animal, and sometimes, as in Job. xli., designating particularly the Egyptian crocodile.

LEVITES, in a general sense, all the descendants of Levi; more particularly, those who were employed in the lower services of the temple, as distinguished from the priests, who were of the family of Aaron. Subordinate to the priests, it was their office in the desert to carry the hangings, the ark, and sacred vessels of the tabernacle, and the materials which composed it. Subsequently part of them attended at the tabernacle, while the others were distributed among 48 cities which were allotted to them in Canaan, and were the ordinary judges of the

country. Five of these cities were cities of refuge. Beside other means of subsistence, they had a tenth of the produce of the lands belonging to the other tribes. They were divided into 8 classes, named, after the 8 sons of Levi, Gershonites, Kohathites, and Merarites. In the time of David they numbered 88,000 men fit for official service, of whom 24,000 were "set over the work of the Lord," 6,000 were officers and judges, 4,000 were musicians, and 4,000 were porters.

LEVITICUS, the 8d book in the Old Testament canon, containing the legislation and regulations concerning the duties of priests and Levites, and the ceremonials of worship. The offering of sacrifices, the consecration and authority of priests, the distinction of things clean and unclean, the feast of atonement, the necessity of exterminating the Canaanites, the prohibition of alliances with them, and of idolatry, theft, perjury, divination, and other crimes, the religious festivals, and the sabbatical and jubilee years, are treated in the book. Leviticus is generally regarded as of Mosaic origin.

LEVY, a N. W. co. of the peninsula of Fla., on the gulf of Mexico, bounded N. W. by the Suwanee river, and S. by the Withlacoochee; area, 775 sq. m.; pop. in 1850, 465, of whom 145 were slaves. The surface is low and swampy, and abounds with valuable timber. The productions in 1850 were 63 hhds. of sugar, 59 bales of cotton, and 3,250 gallons of molasses. Capital, Atseenaotie.

LEWALD, JOHANN KARL AUGUST, a German journalist and author, born in Königsberg, Oct. 14, 1792. He passed from the gymnasium to a mercantile house, entered the service of Russia and made the campaigns of 1813-'15, was afterward appointed to the charge of the Russian hospitals in Germany, and travelled extensively in Europe. In 1817 he became associated at Breslau with Schell and Holtei, with whom he wrote the comedy of *Der Grosspapa*. He was for 9 years an actor at Brunn, aiding at the same time in the direction of the theatres at Munich, Nuremberg, and Bamberg, and he was afterward for 4 years stage manager at Hamburg. After again visiting Paris and Italy, he established himself in 1834 at Stuttgart, where he founded the journal *Europa, Chronik der gebildeten Welt*, which he edited successfully for 12 years. In 1848-'9 he wrote many conservative political articles for the journals of Frankfurt. In 1850 he became one of the editors of the *Deutsche Chronik*, and in 1853 he joined the Roman Catholic church. His works comprise novels, translations, critical essays, and sketches of travel. Most of them are contained in his *Gesammelte Werke* (12 vols., Leipzig, 1844-'5).—FANNY, a relative of the preceding, a German authoress, born in Königsberg, March 24, 1811. Her father, a wealthy Jewish merchant, provided a most careful education for her, and left her free to choose her religion. At the age of 17 she received Christian baptism. In 1831 she travelled through France and Ger-

many, and in 1884 began to write stories to amuse an invalid sister. Her first published novel, *Der Stellvertreter*, appeared in the *Europa* journal in 1841, and was soon followed by others. She lost her father in 1845 while travelling with him in Italy, and on her return to Germany devoted herself to authorship. Her most piquant work is her satire against the countess Hahn-Hahn, entitled *Diogenes* (2d ed., Leipzig, 1847).

LEWES, GEORGE HENRY, an English author, born in London, April 18, 1817. His early education was acquired partly on the continent and partly under Dr. Burney at Greenwich. While young he became the clerk of a Russian merchant, but soon left the counting house for the pursuit of medicine. This he also abandoned for literature and philosophy, which he studied in Germany during 1838-'9. Here he acquired a knowledge of German, and being already familiar with French, Italian, and Spanish, was as regarded languages well prepared for a literary career. After returning to London he soon became known as a brilliant and versatile writer, of great audacity of thought and piquancy of style. He contributed many articles to the leading British reviews and magazines, and to the "Morning Chronicle" and "Atlas" newspapers, and was the literary editor of the "Leader" from its commencement in 1849 until July, 1854. He is the author of "The Spanish Drama: Lope de Vega and Calderon," "Ranthorpe, a Tale" (1847), and "Rose, Blanche, and Violet" (1848). His "Life of Maximilian Robespierre, with Extracts from his unpublished Correspondence," appeared in 1849, and "Comte's Philosophy of the Sciences, being an Exposition of the Principles of the *Cours de philosophie positive d'Auguste Comte*," in 1858. He has also acquired some reputation as a dramatic author, his tragedy of "The Noble Heart" (1850) having been successfully acted, while "The Game of Speculation" has been frequently reproduced. His best known works are however the "Life and Works of Goethe, with Sketches of his Age and Contemporaries, from different Sources" (1855), and his "Biographical History of Philosophy," originally published in 1845 in Knight's "Weekly Volumes." Of late years Mr. Lewes has devoted much attention to physical science, and the results of his researches have appeared in "Seaside Studies at Ilfracombe," &c. (London, 1858), and in the "Physiology of Common Life," now in course of publication, to be completed in 1860. He is said to be at present occupied with translating and annotating Spinoza, in which he will probably develop his analysis of the system of that philosopher, as at first laid down in the "Biographical History of Philosophy."

LEWIS, in mechanics, an ingenious device for securing heavy blocks of stone to the tackle for hoisting. It is said to be named from Louis XIV., under whom the invention was supposed to have been first employed. In the ruins of Whitby abbey, however, originally founded in 658, there appear in the crown of the heavy

keystones of the arches cavities like those now made in such blocks for the lewis. These are quadrangular, and on two opposite sides spread at the bottom as in dovetailing. Three slips of iron are fitted to fill this hole, altogether making a wedge form the head of which is at the bottom of the cavity. The three ends projecting out of the stone present each an eye for a bolt, which is passed through the whole, and serves as the handle for lifting the stone. To remove the lewis, the bolt is driven out, and the key or middle one of the three slips, which is a straight rectangular piece of iron, is readily withdrawn, setting the other two free.

LEWIS, the name of counties in 6 of the United States. I. A N. co. of N. Y., intersected by Black river; area, 1,288 sq. m.; pop. in 1855, 25,229. The surface toward the E. is uneven, broken in many places by low ridges or isolated masses of naked gneiss, and rising gradually to an elevation of 1,400 feet. Toward the W. it rises by a series of terraces to a height of from 1,500 to 1,700 feet. The soil is of various qualities. In the E. part it is a light, sandy, unproductive loam; in the W. almost uniformly fertile, with a limestone basis. The productions in 1855 were 68,785 bushels of wheat, 87,518 of barley, 92,898 of Indian corn, 51,802 tons of hay, 236,918 lbs. of maple sugar, and 1,575,575 of butter. There were 10 grist mills, 95 saw mills, 15 tanneries, 54 churches, and 10,858 pupils attending public schools. Capital, Martinsburg. II. A N. W. co. of Va., drained by the Little Kanawha and the W. fork of the Monongahela river; area, 610 sq. m.; pop. in 1850, 10,181, of whom 868 were slaves. The surface is rough and hilly, in some parts mountainous, and fertile near the streams. The productions in 1850 were 81,056 bushels of wheat, 285,675 of Indian corn, 8,000 lbs. of tobacco, and 24,288 of wool. There were 15 churches, 47 schools, and 1,602 pupils attending public schools. Capital, Weston. III. A W. co. of Tenn.; area, 864 sq. m.; pop. in 1850, 4,488, of whom 786 were slaves. The surface is uneven with a fertile soil. In 1850 there were produced 298,610 bushels of Indian corn, 18,729 of oats, 11,430 of sweet potatoes, and 8,260 lbs. of tobacco. There were 16 churches, 8 academies, and 25 schools with 1,400 scholars. Capital, Newburg. IV. A N. E. co. of Ky., separated from Ohio by the Ohio river; area, 800 sq. m.; pop. in 1850, 7,202, of whom 322 were slaves. The surface is generally hilly, and the soil fertile. The productions in 1850 were 898,686 bushels of Indian corn, 54,808 of oats, 86,820 lbs. of tobacco, and 14,604 of wool. There were 7 saw mills, 4 tanneries, 13 churches, and 513 pupils attending public schools. It contains the Esculapia spring, a fashionable watering place. Capital, Clarksburg. V. A N. E. co. of Mo., separated from Ill. by the Mississippi river; area, 520 sq. m.; pop. in 1856, 9,959, of whom 1,898 were slaves. The surface is diversified, well timbered, very fertile, and of easy cultivation. Limestone underlies part of

the co., and coal has been discovered in several places. The productions in 1850 were 58,527 bushels of wheat, 886,730 of Indian corn, 67,104 of oats, and 19,988 lbs. of wool. There were 11 grist mills, 11 churches, and 1,178 pupils attending public schools. Capital, Monticello. VI. A W. co. of Washington territory; area, about 1,300 sq. m. It is drained by Cowlitz river and several smaller streams, and is mountainous in the E. part.

LEWIS, or SNAKE RIVER, the largest tributary of the Columbia river. It rises on the E. side of the Rocky mountains in Nebraska, near lat. 43° N., long. 109° W., and passing through the mountains into Oregon flows S. W. and then N. W. to about lat. 43° 45' N., long. 116° 45' W., whence it is diverted to the N. In lat. 46° 30', long. 117°, in the territory of Washington, it bends sharply to the W., and making soon afterward a sweep N. W. and S. W., joins the Columbia in lat. 46° 6', long. 118° 40', after a course of 900 m. It receives numerous affluents, most of which are small. The largest are the Punahy, Middle, Owyhee, Big Wood, Fayette, Malheur, Powder, North Branch or Salmon, and Kooskooseky.

LEWIS, the name of 4 brothers prominent in the revolutionary history of Virginia, whose father, John Lewis, was descended from a Huguenot family which settled first in England, and afterward in Ireland. Having killed his landlord in resisting an illegal attempt to oust him from his possession, he emigrated to America, and in 1782 settled at Bellefonte, Augusta co., Va., being the first white resident of the county. I. ANDREW, the third in age, but the most distinguished of the brothers, a revolutionary general, born in Ulster, Ireland, about 1780, died in Bedford co., Va., in 1780. He was remarkable for great bodily vigor and commanding presence. He early became conspicuous in frontier struggles; he volunteered in the expedition to take possession of the Ohio region in 1754, was with Washington at the surrender of Fort Necessity, was present at Braddock's defeat, commanded the Sandy creek expedition in 1756, and was made prisoner in the unfortunate enterprise of Major Grant near Fort Duquesne, but released when the French abandoned the post. In 1768 he was a commissioner on the part of Virginia to conclude a treaty with the Six Nations at Fort Stanwix, N. Y. In 1774, when hostilities had again broken out between the whites and Indians on the western frontier of Virginia, he received the appointment of brigadier-general; and as commander-in-chief at the battle of Point Pleasant (the junction of the Great Kanawha with the Ohio), gained a victory over the most formidable Indian force that ever assembled within the limits of the Old Dominion. That force comprised the flower of the confederated tribes of Delawares, Mingoes, Cayugas, Wyandots, and Shawnees, under their most renowned chiefs, and headed by the celebrated Cornstalk. The number of troops engaged under Gen. Lewis was about 550, of

whom from 40 to 75 were killed and about 140 wounded. The Indian force is believed to have been 800 or 1,000. Gen. Lewis also filled important civil stations. For several years he represented the county of Botetourt in the house of burgesses, and was a member of the two conventions of 1776, which met in March and June. It was then that he received the appointment of colonel of a regiment in the continental army, and soon after he was promoted to the rank of brigadier-general in the same service. One of his first acts after receiving this commission was to drive Lord Dunmore from his retreat on Gwynn's island. His post of duty was now for a considerable time in the lower part of the state, where he contracted a fever of which he died. Upward of 6 feet in height, clad in his fringed hunting shirt, and carrying his long rifle, with a countenance calm and almost stern, Lewis was an accurate type of a race of men who, in the obstinate struggle of the revolution, bore the heat and burden of the day. At Fort Stanwix, the governor of New York said that "the earth seemed to tremble under him as he walked along;" and there is ample evidence of the fact, that to these great physical proportions was united a mental resolution equally striking. His military abilities were very highly valued by Washington, and the estimate placed upon his character and services in Virginia is attested by the selection of his statue to fill one of the 6 pedestals around the Washington monument at Richmond. II. THOMAS, born in the co. of Dublin, Ireland, in 1718, died in 1790. He was a member of the Virginia house of burgesses, where he faithfully supported the rights of the colonies. He advocated the celebrated resolutions of Patrick Henry in the session of 1765, sat in the conventions of 1775 and 1776, and was a member of the state convention which ratified the federal constitution. III. WILLIAM, born in Ireland in 1724, died in Virginia in 1811. He was engaged in the French and Indian warfare under Andrew Lewis, and served with distinction during the revolution. He obtained the rank of colonel. IV. CHARLES, born in Virginia, killed at the battle of Point Pleasant, Oct. 10, 1774. He served with distinction under Andrew Lewis, was a leader in the conflicts of the W. frontier of the state, and rose to the rank of colonel.

LEWIS, DIXON HALL, a U. S. senator from Alabama, born in Hancock co., Ga., Aug. 10, 1802, died in New York, Oct. 25, 1848. He was graduated at the South Carolina college, studied law, and, removing to Alabama, speedily rose to distinction in his profession. In 1826 he was elected to the legislature, and was reelected for the two succeeding years. In 1829 he was elected a representative in congress, and was continued in that capacity until 1844, when he was appointed by Gov. Fitzpatrick a senator in congress, to fill the vacancy occasioned by the resignation of the Hon. William R. King, who had been appointed minister to France. He was elected to fill the unexpired term, and in

Dec. 1847, was reelected for 6 years. Mr. Lewis was a very able public speaker and writer, of the extreme state rights school of politics, sustaining the doctrines of nullification and secession. In person he was one of the largest men of his day, weighing about 500 pounds.

LEWIS, ELLIS, LL.D., an American jurist, born in Lewisberry, York co., Penn., May 16, 1798. He was originally a printer, afterward studied law, was admitted to the bar in 1822, appointed deputy attorney-general in 1824, elected to the state legislature in 1832, appointed attorney-general of Pennsylvania in Jan. 1833, president judge of the 8th judicial district in Oct. 1833, and president judge of the 2d judicial district in Jan. 1843. He was elected a judge of the supreme court of Pennsylvania in Oct. 1851, became chief justice of that court in Dec. 1854, and was unanimously nominated by the democratic state convention for reelection in 1857, but declined, and retired to private life. In 1858 he was appointed one of the commissioners to revise the criminal code of Pennsylvania. His acquaintance with medical jurisprudence gained for him the honorary degree of M.D. from the Philadelphia college of medicine. He has also received the degree of LL.D. from Transylvania university, and from Jefferson college. The opinions of Judge Lewis upon important and difficult questions of law have frequently been cited with approval by the most eminent writers of his profession. He is the author of an "Abridgment of the Criminal Law of the United States," has also devoted considerable time to lighter studies, and has contributed to periodical literature.

LEWIS, ENOCH, an American mathematician, born at Radnor, Chester co., Penn., Jan. 29, 1776, died in Philadelphia, July 14, 1856. He was educated in the principles and usages of the society of Friends. He early exhibited a remarkable talent for mathematics, and though his opportunities of education had been exceedingly limited, he was able at the age of 14 to fill the position of usher in a country school. At 15 he undertook to teach such a school as principal, and was enabled, by the gravity of his demeanor and the respect accorded to his acquirements, to maintain the proper authority over pupils older than himself. In the autumn of 1798 he removed to Philadelphia, and studied mathematics, chiefly without assistance, teaching half of each day to earn means for his support. In 1795 he was employed as surveyor in a corps then engaged under an act of the Pennsylvania legislature to lay out some towns in the western part of the state. From 1796 to 1799 he had charge of the mathematical school in the Friends' academy, founded by William Penn, in Philadelphia. He then became mathematical tutor at Westtown boarding school, a large institution for 200 pupils, then lately established by the Philadelphia yearly meeting of Friends. In 1808 he opened a private boarding school for mathematical students at New Garden, Chester co., where he

continued to teach for some years with success. He edited several mathematical works with notes, and about 1819 published a treatise on arithmetic, which was soon followed by one on algebra, and subsequently by a work on plane and spherical trigonometry. In 1827 he became editor of a monthly periodical called the "African Observer." He wrote a life of William Penn, published in "The Friends' Library," a treatise "On Oaths," one "On Baptism," a small volume reviewing Dr. Cox's "Quakerism not Christianity," and various pamphlets on subjects of temporary interest. In 1847 he undertook the publication of the "Friends' Review," of which he was the editor till his death.

LEWIS, ESTELLE ANNA (ROBINSON), an American authoress, born near Baltimore about 1825. She was educated at the female seminary of Troy, N. Y., after leaving which in 1841 she was married to Mr. J. D. Lewis, a lawyer of Brooklyn, N. Y., where she has since for the most part resided. Her earliest writings were published in the "Family Magazine," edited by Solomon Southwick of Albany, to which she continued a contributor after her marriage. In 1844 appeared her first volume of poems, "The Records of the Heart" (12mo, New York), containing some of her best minor pieces. It was followed by "The Child of the Sea and other Poems" (1848) and "Myths of the Minstrel" (1852); and in 1858 a handsome illustrated edition of her poetical works was published in New York. She has written many poems for "Graham's Magazine," the "Democratic Review," the "Literary World," and other periodicals, and to the first mentioned contributed a series of articles on art and artists in America.

LEWIS, FRANCIS, an American revolutionary statesman, born in Llandaff, Glamorganshire, Wales, in March, 1713, died in New York, Dec. 30, 1803. He was educated at Westminster school, and afterward served a clerkship in a mercantile house in London. At the age of 22 he emigrated to New York, and there embarked in commercial pursuits, which he followed for nearly 40 years, retiring definitively from business upon the outbreak of hostilities with Great Britain in 1775. In this long interval he several times visited Russia and other parts of Europe, and during the "old French war" was an agent for supplying the British troops in North America with clothing. At the surrender of Fort Oswego he was taken prisoner and narrowly escaped death by the Indians. At the outbreak of the revolution he was elected to the continental congress, and in May, 1775, he took his seat in that body as one of the delegates from New York. He signed the declaration of independence, and with the exception of one short interval continued to be a member of congress until April, 1779. His residence on Long island, whither at the time of his first election to congress he had removed his effects, was wantonly plundered by the British troops, and so greatly was his property reduced by the war that he died a poor man.

LEWIS, SIR GEORGE CORNEWALL, an English author and statesman, born in Radnor, Wales, Oct. 21, 1806. His father, Sir Thomas Frankland Lewis, born in London, May 14, 1780, died at Harpton, Radnorshire, June 22, 1855, officiated successively as joint secretary of the treasury, vice-president of the board of trade, treasurer of the navy, and in other public capacities, and was created a baronet in 1846. Sir George was educated at Eton, and at Christchurch, Oxford, where he distinguished himself by classical attainments, and in 1831 was called to the bar, at which however he never practised. After holding with credit various appointments under the crown, he succeeded his father in 1839 as a poor law commissioner, an office which he filled until 1847, when he entered parliament as member for Herefordshire, and became secretary to the board of control. In 1848 he became under secretary of the home department, in 1850 secretary of the treasury, and in 1852 retired from office on the dissolution of the Russell cabinet. In 1855 he was returned to parliament from Radnor, and on the resignation of Mr. Gladstone was appointed, in Feb. 1855, chancellor of the exchequer in the Palmerston ministry. He held office until Feb. 1858, when, on the formation of the Derby ministry, he retired. In June, 1859, he returned to office as home secretary, in the cabinet of Lord Palmerston. In the intervals of his political and official duties he has written several elaborate historical and philosophical treatises, including an "Inquiry into the Credibility of Early Roman History," in which the principles laid down by Mr. Grote are followed out; "Influence of Authority in Matters of Opinion;" the "Origin and Formation of Romance Languages;" a "Treatise on the Method of Observation and Reasoning in Politics," containing a positive system of philosophy applicable to the study of politics; and a translation of Müller's "History and Antiquities of the Doric Race." In 1854 he succeeded Professor Empson as editor of the "Edinburgh Review," but resigned the position upon being appointed chancellor of the exchequer. He married in 1844 Lady Maria Theresa, widow of Thomas Henry Lister, Esq., and sister to the earl of Clarendon.

LEWIS, JOHN FREDERIC, an English painter, born in London, July 14, 1805. He early attracted attention by representations of wild animals both in water colors and oils, and between 1830 and 1850 made long and repeated visits to Spain, Italy, Greece, Turkey, and Egypt. His Spanish scenes, representing bull fights, peasants dancing, or episodes in the Carlist war, were admired, as also the scenes from Italian life, such as "Roman Peasants at a Shrine," and "The Pope Blessing the People." In the exhibition of the water color society for 1850 appeared his "Harem," and in 1855 the artist made his first appearance for many years as a painter in oils in a portrait of an Armenian lady. Among his works are a series of 60 copies in water colors of the *chefs d'œuvre* of the

Venetian and Spanish schools, which belong to the Scottish academy. He has occasionally practised engraving both on metal and stone, and has published 2 volumes of sketches from Spanish subjects. Since 1855 he has been president of the society of painters in water colors.

LEWIS, MATTHEW GREGORY, an English novelist, dramatist, and poet, born in London, July 9, 1775, died at sea, while returning from Jamaica, May 14, 1818. He was educated at Oxford, and on leaving the university proceeded to Germany. In 1795 appeared the 1st edition of his romance "The Monk," the outline of which is taken from a story of the Santon Barsisa in the "Guardian." This at once became popular, and though he had obtained a seat in parliament, the society for the suppression of vice, shocked at the book, took steps to prosecute the author. In 1797 appeared his drama of the "Castle Spectre." In 1798 he visited Edinburgh, and made the acquaintance of Sir Walter Scott, who contributed several ballads to a work entitled "Tales of Wonder," published by Lewis in 1801. On the death of his father, Lewis became possessed of considerable wealth, and plantations in Jamaica, which he twice visited. Beside the works above named, he wrote "The Bravo of Venice," his most popular novel next to "The Monk;" "Timour the Tartar," a drama; "Alonzo the Brave," and "Durandarte," the most interesting of his poems; and the "West Indian Journal," which has been republished in Murray's "Home and Colonial Library."

LEWIS, MERIWETHER, an American soldier and explorer, born near Charlottesville, Va., Aug. 18, 1774, died by his own hand in Tennessee, Oct. 11, 1809. He inherited a moderate fortune from his father, and at the age of 18 engaged in the pursuits of a farmer. But being of an adventurous disposition, he enrolled himself as a volunteer in the troops called out by President Washington in 1794 to quell the "whiskey insurrection" in western Pennsylvania. Subsequently he entered the regular service, rose to the rank of captain, and between 1801 and 1803 filled the position of private secretary to President Jefferson. In the latter year he was recommended to congress by Jefferson, who paid a high tribute to his courage, firmness, and prudence, and intimate knowledge of natural history, to command the exploring expedition which it was contemplated to send across the continent to the Pacific. In company with Capt. William Clark, his associate in the conduct of the expedition, he departed on his mission in the summer of 1803, and encamped for the winter on the bank of the Mississippi, opposite the mouth of the Missouri. Their company was composed of 9 young men from Kentucky, 14 soldiers, 2 Canadian boatmen, an interpreter, a hunter, and a negro servant of Capt. Clark. Beside these, a corporal, 6 soldiers, and 9 boatmen had been engaged to accompany the expedition as far as the territory of the Mandans. Whatever was deemed suitable for exchanges with the Indians had been provided, as well

as all articles supposed likely to be necessary for travellers. These were conveyed in a little fleet of one covered and two open canoes, and two horses were to be conducted along the bank of the river, for service in securing game and provisions. In the spring of 1804 Lewis set his party in motion to ascend the Missouri. Early in June they were among the Osages. The Pawnees and Ottawas were then passed, and by September the country of the Sioux had been reached. A second winter was passed by the travellers in cabins constructed among the Mandans, lat. $47^{\circ} 21' N$. The party found, in buffaloes and other game, abundant food, but suffered severely from the intense cold. From this point despatches were sent back to St. Louis. On April 7, 1806, they again moved forward, still ascending the Missouri, and reached the great falls by the middle of June. Above these, near the close of July, they attained the point where three nearly equal streams concur and constitute the mighty river they had ascended. To these were given the names of Jefferson, Madison, and Gallatin, then president, vice-president, and secretary of state of the United States. They ascended the Jefferson, the northernmost of the three. On Aug. 1, soon after entering it, Capt. Lewis with three companions set out on foot toward the mountains in search of the Shoshonee Indians. On the 12th he reached the head of the Jefferson, the extreme source of the Missouri, in a defile of the Rocky mountains, and crossing the dividing ridge discovered a small rivulet tending to the Pacific. Meeting with the Shoshonees, he induced a number to return with him to the last forks of the Jefferson, to which the boats had been brought, but beyond which further navigation was impossible. The party encamping, Capt. Clark went forward to determine their future course, and on the 20th came upon the river whose head had been first seen by Capt. Lewis, and named it Lewis's river. On his return, favorable arrangements being made with the Indians, a number of horses procured, and a guide engaged, the expedition set out again, Aug. 31, and until Sept. 22 travelled in the mountains. Then were entered the broad plains of the great western slope. The latter part of this mountain transit was peculiarly painful, by reason of the great quantity of snow, which began to fall on Sept. 16. On Oct. 7, leaving their horses, &c., with friendly Indians, they embarked in canoes on the Kaskaskia, the left branch of the Columbia, and on Nov. 15 reached the mouth of that great river, having travelled more than 4,000 miles from the confluence of the Mississippi and Missouri. They passed their 8d winter in an intrenched camp which they constructed on the southern bank of the Columbia, suffering from want of fuel and food. On March 23, 1806, embarking for their homeward voyage, they began to reascend the Columbia. On May 2, leaving the boats, and resuming the horses, found safe with the Indians to whom they had been intrusted, they essayed anew a mountain

march. This from the west proved much more difficult than it had been found in the other direction. It was the end of June before they reached the point from which they had set out Sept. 12 of the previous year. Attempting from this point to penetrate N. E. through a region not before explored, Lewis encountered peculiar perils from hostile Indians, and was beside accidentally wounded by the discharge of a gun belonging to one of his party. On Aug. 13 he rejoined Clark, and descending the Missouri together, they reached St. Louis Sept. 23, after an absence of 2 years and 4 months. The report of their arrival was received with general joy throughout the United States. By the middle of February they reached Washington, congress being in session. By this body grants of land were made both to the men of the expedition and to their chiefs, while Lewis was made governor of Missouri territory, and Clark general of its militia and Indian agent. In the comparative quiet of his new mode of life, Mr. Lewis began to suffer from hypochondria, hereditary in his family, and to which he had been more or less subject from his youth. During one of these seasons of depression duty called him to Washington, and at a lodging place on the road he put an end to his life. A narrative of the expedition of Lewis and Clark, from materials furnished by each of the explorers, was prepared by Nicholas Biddle and Paul Allen, to which was prefixed a memoir of Lewis by Jefferson (2 vols. 8vo., Philadelphia, 1814).

LEWIS, MORGAN, an American soldier, jurist, and politician, born in New York, Oct. 16, 1764, died there, April 7, 1844. He was graduated at Princeton college in 1778, and subsequently entered the office of John Jay as a student of law. At the breaking out of the revolution he obtained a commission in the American service, and from the time when he joined the army before Boston until the close of the war was actively employed, distinguishing himself at Saratoga, and in the operations undertaken by Gen. Clinton against Sir John Johnson in northern New York. He retired from the service at the close of the war with the rank of colonel, resumed the study of the law, and in 1801 was appointed chief justice of the supreme court of New York, an office which he resigned in 1804 upon being elected governor of the state. In 1807 he resumed his practice, and upon the breaking out of the war with England in 1812 he was appointed quartermaster-general in the U. S. army. In 1814 as major-general he commanded the forces concentrated in New York.

LEWIS, SAMUEL, an American educationist, born in Falmouth, Mass., March 17, 1799, died in Cincinnati, O., July 28, 1854. His father was captain of a small coasting vessel, and before he was 11 years old he had made several voyages as cabin boy. In 1818 the family removed to Ohio, the father and his 5 sons walking the whole distance from Falmouth to Pittsburgh, Penn. Samuel was now employed on a farm, and when 15 years of age was appointed

mail carrier between Cincinnati and Chillicothe. He was afterward one of a party of surveyors in Indiana, and next a carpenter. He acquired the rudiments of education in his leisure moments, and at the age of 20, resolving to study law, obtained a place in the office of the clerk of the Hamilton county court. In less than 8 years he was admitted to the bar, and soon obtained a high reputation. In 1824 he was licensed as a local preacher in the Methodist church. He had at this time taken a stand in behalf of temperance and education. To his efforts were due the founding and endowment of the Woodward, and subsequently of the Hughes high school, at Cincinnati. Of the funds for the endowment of these schools, now amounting to \$310,000, he was a life trustee. From 1831, when he had aided effectively in forming the western college of teachers, he took an active interest in the promotion of common school education in Ohio. In 1837 he was elected by the legislature superintendent of schools. He visited 40 counties and 300 schools, and lectured on education in nearly all. In his report to the legislature he advocated the adoption of a better system of schools, with power to the cities and larger towns to organize high schools or seminaries; the founding of a state fund; loans for building school houses; the establishment of school libraries; the publication of a school journal; and such legislation as should secure the largest returns from the school lands. These measures were adopted, and he was re-appointed as permanent state superintendent, and editor of the "Common School Director." His report for the year 1839 suggested nearly every improvement which has since been made in the schools of Ohio. His health, however, had become so much impaired that he resigned his office, in performing the duties of which his travelling expenses had amounted to more than the whole sum received from the state. Identified with the anti-slavery party from 1841, he was for the next 12 years its favorite candidate for the state senate, for congress, and for governor, and he was very zealous in the promotion of temperance and kindred reforms.

LEWIS, TAYLER, LL.D., an American scholar and author, born in Northumberland, Saratoga co., N. Y., in 1802. His father was an officer in the revolutionary war. Dr. Lewis was graduated at Union college in 1820, studied law in Albany, and practised at Fort Miller. He gave much of his time to the study of Hebrew and general biblical and classical literature. In 1833 he taught a classical school at Waterford, whence he removed in 1835 to Ogdensburg; and in 1838 he was appointed professor of Greek in the university of New York. In 1849 he took the same professorship in Union college. Dr. Lewis has devoted much time to the study of languages, and occupies a high position as a philologist. He has contributed largely to the more prominent magazines and reviews, and has delivered and published several addresses on important literary and philosophical topics.

In 1844 he published a volume on the "Nature and Ground of Punishment," sustaining the penalty of death for capital crimes; and in 1845 "Plato contra Atheos," appending to the Greek text extended critical and philosophical notes. In 1858 appeared his "Six Days of Creation, or Scriptural Cosmology, with the Ancient Idea of Time-Worlds in distinction from Worlds of Space;" which was followed by a controversial work on the same subject, entitled "The Bible and Science, or the World Problem." In 1860 he published "The Divine Human in the Scriptures," an acute and learned work, designed as introductory to a more extended publication on the figurative language of the Bible. He has also in preparation a translation of Plato's "Theætetus."

LEWISBURG, a town of Union co., Penn., on the W. branch of the Susquehanna river, 69 m. N. from Harrisburg; pop. about 3,000. It contains 4 churches, and is the seat of a university under the direction of the Baptists, founded in 1847, which in 1859 had 4 professors, 54 students, and a library of 4,000 volumes.

LEWISTON, a township of Androscoggin co., Maine, 38 m. N. from Portland, extending for about 12 m. along the E. side of the Androscoggin river, and connected with Auburn on the opposite side by a bridge 700 feet long; pop. in 1850, 3,584, since which time it has more than doubled. By the Androscoggin and Kennebec railroad, which connects with the Atlantic and St. Lawrence railroad at Danville, 6 m. below Lewiston, and with the Androscoggin railroad at Leeds, 11 m. above, it communicates with the most populous and flourishing portions of the state. Its importance is chiefly due to its water privileges, which are among the best in New England, now applied to a great variety of machinery, involving large manufacturing interests. The river breaks over a diagonal ledge of rocks, and falls more than 50 feet in a distance of 200 feet. The natural advantages thus furnished are increased by a dam extending across the river, and by a canal, 60 feet wide, reaching from above the falls to the mills. The conformation of the ground is such that the water may be used several times. An association of capitalists, called the Franklin company, has purchased more than 1,100 acres of land adjacent to the falls, with the purpose of building up a manufacturing city. It owns all the water power, and rents it to the other companies. It is also a manufacturing company, and has a bleachery, the best in New England, capable of bleaching 6 tons of goods per day. The principal corporations are the Franklin company, having a capital of \$600,000, 21,000 spindles, and 425 operatives, for white cottons; the Bates manufacturing company, \$800,000 capital, 36,000 spindles, 812 looms, and 1,000 operatives, for cottons; the Hill manufacturing company, \$1,000,000 capital, 22,400 spindles, 414 looms, and 400 operatives, for fine cotton goods (it has one mill in operation, and is now (June, 1860) laying the foundation for a second

of equal capacity, with a third to be added); the Lewiston bagging company, \$150,000 capital, 4,500 spindles, 74 looms, and 120 operatives, manufacturing an average of 2,500 grain sacks daily; the Lewiston Falls manufacturing company, \$59,000 capital, 5 sets of machinery, and 60 operatives, for woollens; and the Lewiston furnace company, \$35,000 capital and 40 operatives, for steam engines, boilers, and other machinery. The Androscooggin company, chartered in 1860, has nearly completed (June, 1860) the foundation for a mill of 40,000 spindles. There are two other machine shops; a corn and flour mill, having 4 runs of stones, and capable of making 150 barrels of flour per day; a large card factory; a steam saw mill; and another saw mill, having one gang and a single saw capable of cutting 5,000,000 feet of lumber annually, and all the appliances for manufacturing shingles, laths, sashes, blinds, doors, and bobbins. Lewiston has 8 churches, viz.: 1 Baptist, 1 Congregational, 2 Freewill Baptist, 1 Methodist, 1 Episcopal, 1 Universalist, and 1 Roman Catholic. Its public schools are among the best in the state. It is the seat also of the Maine state seminary, under the patronage of the Freewill Baptists, chartered in 1855, established in 1857, with a liberal endowment by the state, and having in 1860 8 teachers and 850 pupils. Four newspapers are published here. In the vicinity of the village are valuable ledges of rock, furnishing excellent building materials.

LEWISTON, a port of entry for Niagara district, N. Y., on the Niagara river, 7 m. from its entrance into Lake Ontario and from the falls, with which it is connected by railroad; pop. in 1855, 1,014; of the township, 3,260. It is connected with Queenstown, Canada, by a suspension bridge, and has railroad communication with Detroit and Albany. For the year ending June 30, 1859, the exports of the district, of which the greater part was entered in the port of Lewiston, amounted to \$1,784,580; imports, \$1,019,944. The entrances of vessels were 356, tonnage 106,698; clearances 854, tonnage 106,174; tonnage of the district, 1,175. It contains 4 churches (Baptist, Episcopal, Presbyterian, and Roman Catholic), and 13 schools with 1,214 pupils. In 1814 it was burned by the British.

LEWISTOWN, a village and the capital of Mifflin co., Penn., on the left bank of the Juniata; pop. in 1850, 2,735. It has an active trade, exporting large quantities of wheat, Indian corn, pork, and iron, and is connected by canal and railroad with Philadelphia and Pittsburg. In 1850 it contained 7 churches (African, Baptist, Episcopal, Lutheran, Methodist, Presbyterian, and Roman Catholic).

LEWSOHIN, ALEXEI, a Russian statesman and scholar, born in 1799. He attended the university of Kharkov, and published as early as 1816 "Sketches of Little Russia." He received an appointment in the government of Orenburg, where he collected materials for his "Historico-Statistical Description of the Ural Cossacks" (St. Petersburg, 1823), and "His-

torical and Geographical Notice of the River Sir Daria or Jihon," which is in French (Paris, 1828), most of his other works being in German. An extensive exploration in the Kirgheez steppes enabled him to make a considerable addition to the stock of knowledge of those distant regions in his "Description of the Kirgheez Hordes and Steppes" (St. Petersburg, 1832). Having officiated for some time as one of the military commanders of the city of Odessa, he visited Italy in 1843, which gave occasion for his *Spaziergänge eines Russen in Pompeji* (St. Petersburg, 1843); and on his return to Russia he was appointed chief of the economical department in the ministry of public domains. In 1844 he was made a privy councillor, and after the accession of Alexander II. he was attached to the ministry of the interior, where he was appointed to prepare a plan for the emancipation of the serfs. In conjunction with Struve and other men of science, he founded in 1845 the Russian geographical society; and as a leading member of the council of that body, he has actively promoted the different expeditions which have since been despatched under its auspices to remote parts of the Russian empire. Since 1857 he has been president of the administrative council of the great Russian railway company.

LEXINGTON, a central district of S. O., bounded N. E. by the Broad and Congaree and S. W. by N. Edisto river, and intersected by the Saluda; area, 980 sq. m.; pop. in 1850, 12,930, of whom 5,557 were slaves; white pop. in 1859, 8,726. The surface is diversified. The productions in 1850 were 382,518 bushels of Indian corn, 36,942 of wheat, 84,066 of oats, 60,721 of sweet potatoes, and 4,608 bales of cotton. There were 33 saw mills, 3 grist mills, 33 churches, and 700 pupils attending public schools. Capital, Lexington.

LEXINGTON, a township and village of Middlesex co., Mass., 10 m. N. W. from Boston and 7 m. E. from Concord; pop. in 1855, 2,549. The village is the terminus of the Lexington and West Cambridge railroad, a branch of the Boston and Fitchburg railroad. The surface of the township is diversified, and the soil is generally fertile. A great quantity of milk is produced, of which several hundred thousand gallons are annually sent to the Boston market. There are 4 churches (1 Baptist, 2 Congregational, and 1 Unitarian), and a high school.—Lexington is memorable as the scene of the first armed encounter between the British and Americans in the revolutionary contest. On the night of April 18, 1775, Paul Revere of Boston, eluding the British sentinels, escaped into the country across Charles river and spread information of the intended march of a detachment of British troops 800 strong, commanded by Lieut. Col. Smith, to seize the provincial stores and cannon at Concord. About midnight he reached the house of the Rev. Jonas Clark, the minister of Lexington, where Hancock and Adams lodged. The town at that time contained about 700 inhabitants, and nearly all the able-bodied

males had been trained to the use of arms, and were enrolled as minute men. The alarm was given, and by 2 o'clock in the morning about 180 militiamen were assembled under arms on the common, commanded by Capt. John Parker, who ordered them to load with powder and ball, but to take care not to be the first to fire. Messengers were then sent toward Boston to look for the British, who returned reporting that there were no signs of their approach. A watch was set, and the militia dismissed with orders to assemble again at beat of drum. Just at daybreak the advanced guard of the enemy, commanded by Major Pitcairn, was discovered approaching the village. The alarm was given, and between 60 and 70 of the militia assembled and were paraded in two ranks on the common a few rods north of the meeting house. The British halted to load, and to allow the rest of the detachment to come up. They then advanced almost on a run. Pitcairn rode in front, and when within 5 or 6 rods of the Americans he called out: "Disperse, ye villains, ye rebels, disperse; lay down your arms; why don't you lay down your arms and disperse?" They kept their ranks firmly and silently until Pitcairn discharged a pistol at them and ordered the soldiery to fire. A heavy discharge of musketry followed, and 7 of the men of Lexington were killed and 9 wounded. The killed were Jonas Parker, Isaac Muzzey, Jonathan Harrington, jr., Caleb Harrington, Robert Monroe, Samuel Hadley, and John Brown. The last two were pursued and killed after they had left the common. Asahel Porter of Woburn, a prisoner taken by the British on the march, was killed at the same time as he was trying to escape. When the British fired, Capt. Parker ordered his men to disperse. A few of them then returned the fire, and Pitcairn's horse was grazed by a bullet and a private slightly wounded in the leg. The British drew up on the common, fired a volley, gave three cheers, and after a halt of half an hour marched on to Concord. On their retreat from that place, after the battle at the bridge (see CONCORD), while passing through Lincoln, they were attacked by the Lexington men, and as they were ascending Fiske's hill in the west part of Lexington a sharp contest took place in which a number were killed. About a mile below the common the British were saved from total destruction by the arrival of a reinforcement of 1,200 men under Lord Percy. The action at Lexington roused the whole country. The night before it there were few people in the colonies that expected any blood would be shed in the contest. The night after, says Bancroft, the king's governor and the king's army found themselves closely beleaguered in Boston. In 1799 a small monument was erected on Lexington common to mark the spot of the first bloodshed of the revolutionary war. In 1859 an association, of which Edward Everett is president, was organized to procure by voluntary contributions the erection of a more fitting memorial of the event, in the shape of a

colossal bronze statue of a revolutionary minute man elevated upon a lofty pedestal of granite, with appropriate sculptures in bass-relief.

LEXINGTON, the capital of Rockbridge co., Va., on North river, an affluent of James, 146 m. W. from Richmond; pop. in 1850, 1,733. It is situated in a valley and surrounded by beautiful mountain scenery. Washington college, founded in 1798 and endowed by General Washington, and the Virginia military institute, founded in 1888, are situated here; and there are also in the village 4 or 5 churches, and 2 seminaries.

LEXINGTON, a city and the capital of Fayette co., Ky., situated on the Town fork of the Elkhorn, a tributary of Kentucky river, 77 m. E. from Louisville, in lat. 38° 2' N. and long. 84° 26' W.; pop. in 1850, 9,180; in 1860, about 10,000. It is surrounded by a country unsurpassed in beauty and fertility. The streets are laid out at right angles. The finest one, Main, is upward of a mile in length. The public buildings are a court house, Transylvania university, masonic hall, 12 churches, the city hospital, state lunatic asylum (one of the largest and most commodious in the Union), two banks of issue and several of deposit, an orphan asylum, public schools, &c. There are published in the city two semi-weekly newspapers. Transylvania university, the oldest college in the state, was founded in 1798. In 1859 it had 8 professors and 25 students. Connected with it are law and medical departments. The university libraries, including those of the law and medical schools, number about 15,000 volumes. Lexington also has a city library with 5,000 or 6,000 volumes. There are about 100 stores and shops of various kinds and 80 manufacturing establishments in the city. A heavy business is done in the manufacture of hemp. There are 8 railroads leading from the city, the Louisville, Covington, and Danville; and 12 macadamized turnpikes. At the west end of Main street there is a beautiful cemetery, in the midst of which stands a monument erected to the memory of Henry Clay. The city is well paved and lighted with gas. The first settlement was made in 1775 by Col. Robert Patterson. The news of the battle of Lexington reached the settlers while they were laying out the town, and they immediately named it after the first battle field of the revolution. The town was incorporated by an act of the Virginia legislature in 1782, and was formerly the capital of the state.

LEXINGTON, a township and capital of Lafayette co., Mo., finely situated on the right bank of the Missouri river, 350 m. from St. Louis, and 125 m. from Jefferson City; pop. in 1859, 5,200. It has 7 churches, a branch of the bank of Missouri, capital \$600,000, 2 weekly newspapers, 3 hotels, and 6 grist mills. It was settled in 1837.

LEYDEN (anc. *Lugdunum Batavorum*), a city of Holland, in the province of South Holland, 27 m. by railway from Amsterdam and 9½ m. from the Hague, on the Old Rhine, which

discharges its narrow stream into the sea at a distance of 8 m. from the city; pop. about 40,000. The city presents an antique, venerable, scrupulously clean, but dull and inanimate appearance. It is surrounded by numerous wind mills, in one of which Rembrandt is said to have been born, and by pleasant country seats, where Descartes found an asylum and Boerhaave resided. It is traversed by many canals, the bridges of which number about 150. The *Breede Straat*, or Broad street, ranks among the finest of Europe. The large open space called the *Ruine* in the Rapenburg street, now planted with trees, was covered with dwellings until 1807, when 800 of them were destroyed with 150 persons by an explosion of gunpowder. The chief ornament of Leyden is the university, founded in 1575 by the prince of Orange. For some time it contributed so much to the learning of Europe, that Leyden was called the Athens of the West. Associated with it are the names of Grotius, Descartes, Heinsius, Scaliger, Boerhaave, Arminius, and Gomarus. Evelyn, Goldsmith, Fielding, and other English men of letters studied at Leyden. The university is still attended by about 600 students, and there are 83 professors. Most of the lectures are delivered in Latin. The junior students have for a short time after their entrance to act as fags to those of older standing. The students reside in lodgings in the city, and wear no uniform dress. The museum of natural history, one of the most extensive in Europe, is especially rich in productions of the East and West Indies, and has a remarkable collection of birds. The cabinet of comparative anatomy is exceedingly rich. The collections of shells, of minerals and insects, and of agricultural objects, as well as the Egyptian museum, possess great interest, as does the Japanese collection of Siebold, the most comprehensive of the kind in the world. The library contains 60,000 printed volumes and 14,000 MSS., including some of the rarest oriental ones, collected by Golius in the 17th century. Printing was extensively carried on in Leyden in the 17th and 18th centuries, as was the manufacture of fine woollen cloth. In the 17th century the population was estimated as high as 100,000. Nearly 4,000 of the inhabitants were carried off by the plague in 1655. In more recent times industry has declined, but Leyden continues to be the principal market for wool and woollen goods in Holland, and the population has nearly doubled since the beginning of the 19th century.—The siege of Leyden and its heroic defence against the Spaniards in the Dutch war of independence, forms one of the most interesting episodes in the history of the Dutch republic. After a protracted warfare the city was relieved on the morning of Oct. 8, 1574, when the fleet of Boisot entered Leyden. Motley, in his "Rise of the Dutch Republic" (New York, 1856), says: "The quays were lined with the famishing population, as the fleet rowed through the canals, every human being who could stand coming forth to

greet the preservers of the city. . . . On Feb. 5, 1575, the city of Leyden, so lately the victim of famine and pestilence, had crowned itself with flowers." A grand procession was formed on that day, which marched to the cloister of St. Barbara, the place prepared for the new university, which the prince of Orange established, as well as a 10 days' annual fair without tolls or taxes, as a reward for the sufferings and heroism of the citizens. An interesting medal struck on the occasion of the siege of Leyden being raised was exhibited by Dr. Lee in the London numismatic society in 1858. Leyden is also associated with American history through the pilgrim fathers, who, after their arrival from England in Amsterdam (1608), removed to Leyden (1609), where "they saw poverty coming on them like an armed man."

LEYDEN, JOHN OF. See ANABAPTIST.

LEYDEN, JOHN, a Scottish author, born in Denholm, Roxburghshire, Sept. 8, 1775, died in Batavia, Aug. 21, 1811. He studied at the university of Edinburgh, and was ordained in 1798; but not attaining any success in the clerical profession, he abandoned it, and applied himself to the study of medicine. In 1802 he was appointed assistant surgeon in the East India company's service, and on arriving at Madras turned his attention to the oriental languages. In 1806 he removed to Calcutta, where he was appointed professor of Hindostanee in Fort William college, and shortly afterward judge of the Twenty-Four Pergunnahs. In 1809 he was made a commissioner of the court of requests, and in 1810 was promoted to the office of assay master of the mint. Having accompanied Lord Minto in an expedition against the Dutch colony of Java in 1811, he there contracted a fever which proved fatal. The most important of his works are: a "Historical Account of Discoveries and Travels in Africa" (enlarged and completed by Hugh Murray, 2 vols. 8vo., Edinburgh, 1817); and "An Essay on the Languages and Literature of the Indo-Chinese Nations," published in vol. x. of "Asiatic Researches." His poetical remains were published in London in 1819 by the Rev. John Morton, and a new edition of his "Poems and Ballads," with a memoir by Sir Walter Scott, in 1858.

LEYDEN, LUCAS VAN, otherwise called LUCAS JACOBZ, a Dutch painter and engraver, born in Leyden in 1494, died in 1533. At 10 years of age he was placed with Cornelius Engelbrecht, a painter of Leyden, and two years later he produced a picture of St. Hubert which astonished the artists of Leyden. At 14 he produced a celebrated print of "Mohammed killing Sergius." He subsequently rose to eminence in Holland, was an intimate friend and correspondent of Albert Dürer, and finished a large number of pictures, few of which however are now well authenticated. In all that regards external manner he resembled Dürer, particularly in his tendency to the grotesque and whimsical, but lacked his grandeur of design. He painted

in oil, in distemper, and on glass, and essayed history, landscape, and portraits, but inclined rather to scenes of common life. His most important work is the "Last Judgment" in the town house at Leyden, a picture of immense size. He was equally celebrated as an engraver, working on wood as well as copper.

LHA-SSA. See LASSA.

L'HÔPITAL, or L'HOSPITAL, MICHEL DE, chancellor of France, born in Aigueperse about 1504, died in Bellebat, near Étampes, March 13, 1573. He was made president of the court of accounts in 1554, and chancellor of France in 1560. In the former office he proved his integrity and courage by refusing the 20,000 livres which Henry II. demanded for Diana of Poitiers. In the latter office he refused to sign a sentence of death against the prince of Condé. His aim was to moderate all parties, and he opposed violence in politics and intolerance in religion. To him were due the edict of Romorantin (1560), which prevented the establishment of the inquisition in France; the ordinance of Orleans (1561), at once an administrative, judicial, and religious code; the edict of pacification (1562), which authorized the free exercise of Protestant worship, with certain precautions for the preservation of peace; the edict of Roussillon (1565), which fixed the beginning of the year at Jan. 1; and the ordinance of Moulins (1566), to reform the administration of justice. He gave up the seals of office in 1568, and retired to the country. His moderation had drawn upon him the enmity and suspicion of the Catholic party, especially as his wife and family had all become Protestants. A troop sent to protect him at the period of the St. Bartholomew massacre being mistaken for assassins, he commanded the door to be opened to them, saying that his time would come whenever God pleased. His complete works, embracing Latin poems, harangues, memoirs addressed to the king and the parliament, and a political testament, were edited by Dufey l'Yonne (4 vols., Paris, 1824).

LIAS, an English provincial name for a group of strata lying at the base of the jurassic formation, and more or less intermingled with the overlying oolite; but in the Jura the two formations are distinct, the oolite reposing unconformably upon the lias. Over a considerable portion of Europe it is found in alternating beds of clays, sandstones, and limestones, which altogether attain a thickness of 500 to 1,000 feet. The limestones have a peculiar appearance, lying in thin strata of a bluish or grayish color within, and light brown without where exposed to the weather. As noticed in the article GEOLOGY, the nearest representatives of the group in the United States are found in the coal fields of S. E. Virginia and North Carolina, and the middle secondary sandstones of the Connecticut river valley and of New Jersey; though it may be that these correspond more closely to the oolite. The formation is especially interesting in Europe for the variety of fossils it affords, the most extraordinary

among which are the huge reptiles, the ichthyosaurus and plesiosaurus of several species. The limestones abound also in corallines, and in great variety of shells. The remains of fish are all of extinct genera.

LIBANIUS, a Greek sophist and rhetorician, born in Antioch about A. D. 316, died there toward the close of the same century. He taught rhetoric at Constantinople, where his school drew such vast numbers of students that his rivals caused him to be expelled from the city as a sorcerer. He subsequently returned to Antioch, and there passed his latter days. He was highly esteemed by the emperors Julian, Valens, and Theodosius. He was a pagan, but yet maintained friendly relations with many Christians, including St. Basil and St. Chrysostom, who were his pupils. He was a voluminous author, and several of his works are extant, but there is no complete edition of them.

LIBANUS, MOUNT. See LEBANON.

LIBEL, in law, has one meaning in criminal law, or as a ground for civil action, and quite another as one of the processes of legal remedy. In both senses the word is derived from the Latin *libellus*, which means literally a little book, but was used for any brief writing. In the Roman criminal law the phrase was *libellus famosus*. The qualifying adjective is dropped in our common use of the word, but is often used in accurate legal documents, as in the latest English statute about libels, where the expression generally used is "defamatory libel." Generally, however, the word libel is supposed to imply defamation. Its exact definition is difficult; Lord Chancellor Lyndhurst has said that he never met with one entirely satisfactory to him. The shortest and simplest, and at the same time the best in our judgment, is this: a libel is any published defamation. In "The People vs. Croswell," 8 Johnson's Cases, 354, occurs the following definition of a libel: "A censorious or ridiculous writing, picture, or sign, made with a mischievous and malicious intent toward government, magistrates, or individuals." This definition is approved and adopted in 9 Johnson's Reports, 214, and more recently in Denio's Reports, 847.—We propose to consider: 1, what this defamation must be; 2, what the publication; 3, what the punishment or remedies; 4, what may be the defence. Before proceeding to these topics, it may be well to remark, however, that libel is distinguished, in law, from slander, by the fact of publication; for while libel is published defamation, slander is only spoken defamation. The offences are entirely different in law, and very different systems of rules apply to them. (See SLANDER.) As to the requisite defamation, it need not charge any crime, nor any thing which must affect a man's business or pecuniary interest, or indeed accuse him of any moral obliquity. It is quite enough if it holds him up to ridicule. One reason for this is, that a man has a right to a respectable position in society, and is injured by any thing which tends to degrade

him in the opinion of his neighbors. But the reason most commonly given by courts and text writers is, that the essence of the offence of libel lies in its being dangerous to the public peace; and defamation which only makes its object ridiculous, is quite as likely to make him angry and stir him to break the peace, as if it affected his pecuniary interests or exposed him to legal measures. On the same foundation rests the distinction between libel and slander; because the law considers that words, which while spoken only are fleeting and transitory, become fixed and vested by publication, and capable of indefinite diffusion, and therefore their capacity of mischief is vastly increased; hence, while libel is indictable, slander is not. The defamation may be of the dead, provided it have a tendency to stir up to revenge or violence any living friends of the deceased. So it has been held, that a publication is a libel which consists only of defamation of the Christian religion, of morality, or of decency. The publication may consist of any act or acts which put the defamation into distinct and apprehensible form; thus, not only printing it in any form is sufficient, but painting it, as on a sign, or drawing it, as in a caricature. Nor need the name of any person be mentioned if it be sufficiently obvious who is thus held up to public ridicule; nor need it be given to the public. If it is written in a letter sent to but one person, that is publication; and it has been held, on what seem to us good grounds, that if one write what is defamatory of a person, in a letter addressed to the person defamed, and send it to him only, this also may be publication. It has been held that if one take down a volume from book shelves and read from it a defamatory passage to one or more persons, this is publication of a libel. Again, if the defamation be published in a work of general circulation, as a newspaper, the writer, the editor, and the publisher are all and severally liable; and the editor and publisher are liable although they give the name of the writer, or even if the writer's name be appended to the article; for if the law were otherwise, it would be easy to give any publicity to any libel with impunity, merely by putting to it the name of some person who was not responsible in fact, because he had nothing to lose. But if a servant of the publisher sell the book, this is not, of itself, publication on his part, but it is some evidence of publication on the part of his master; and perhaps the same rule would be applied to any mere agent. Nor is it held to be a defence to the editor or publisher, that he did not know the libellous character or nature of the matter published. It is as much publication if the book or paper be given away as if it be sold; and with every copy given or sold there is a repetition and renewal of the offence. It is doubtless of the essence of libel that malice enter into the act or motive; but this may be either express malice or constructive malice; that is, there may be direct proof of an actual malicious purpose in

the words or act, or they may be such that the law will imply malice in the absence of proof, on the ground partly that no person could do such a thing if he were not malicious, and partly that the thing itself is so wrongful and mischievous, that the safety of society requires that the doer should be punished as if he were malicious, and that no one should be able to defend himself for doing so great a wrong by showing that it was done only through negligence or stupidity.—As to the punishment, any person guilty of libel may be indicted for the offence, as a crime against the public, and if convicted punished accordingly. But the person defamed may also bring his action for damages and recover full compensation. The reason for treating libel as a public offence as well as a private one consists in the injury done to the public by endangering its peace. But this is entirely independent of the injury to the person defamed, for which he has therefore his own remedy. The punishment for libel is fine and imprisonment. This is regulated by statutes in some states, and in others rests on the common law, according to which libel is a misdemeanor.—The defence against libel has presented questions which were once of great public interest; and if they are less so now, it is only because they are now quite well settled, and the law in respect to them stands on a basis which no one is disposed to disturb. By the Roman civil law, the crime of libel was punished very severely. The 12 tables made it a capital offence. By the time of Augustus usage had so modified the law, that the punishment was only corporal; but Valentinian made it once more capital, and extended the punishment of death to him who wrote or published the libel, or omitted the destroying or suppressing of it if he could do so. By a law of Alfred, the inventor of a public falsehood (*publicum mendacium*) was punished by the loss of his tongue, nor could he redeem his tongue for less than the price of his head. The laws of Greece as well as those of Rome made many distinctions in relation to the law of libel, some of which were very nice; but they do not seem to have recognized that which has been for a long time the fundamental distinction, by the law of England and of this country, between published defamation or libel and merely spoken defamation, which, as we have seen, is only slander.—The earliest question in point of time, and one of the most important in its character, which has arisen in the history of the law of libel, is in relation to the function of the jury as distinct from that of the court. A familiar and perfectly well established principle gives all questions of fact to the jury, and leaves all questions of law to the court. In the last century there was an endeavor in the English courts to confine the question before the jury to the mere publication of the words charged, leaving it for the court to say whether the words or thing published constituted a libel. This was so held by the court of king's bench, in "The King vs.

Owen" (10 St. Tr. App. 169); in "The King vs. Mott" (8 T. R. 430, in notes); and in "The King vs. Shebbeare" (ibid.). Then Lord Mansfield and his colleagues asserted the same law in "The King vs. Woodfall," as the publisher of Junius (5 Burrows, 2666); and finally in the case of "The King vs. the Dean of St. Asaph" (8 T. R. 428, in notes). The powerful and very eloquent speech of Erskine in this last case attracted general attention to the subject; and soon afterward, the statute 82 George III. ch. 60 (1792), provided that in every trial of an indictment or information for libel the court should give their opinion and direction to the jury on the whole matter at issue, as in other criminal cases. This placed the whole question before the jury, who might, if they saw fit, bring in a general verdict of not guilty, although they were satisfied that the accused published the words alleged, and the court instructed them that these words constituted a libel. Still, it was thought that this question remained properly a question of law only. But in 1803 the case of "The People of New York vs. Croswell," for an alleged libel against Thomas Jefferson, was tried before the supreme court; and the court being equally divided upon this question, an act was passed in 1805, going further than the English statute, and providing that on every trial of an indictment for libel, the jury "shall have a right to determine the law and the fact, under the direction of the court, as in other criminal cases." This may now be regarded as the settled law in every part of the United States. —Another question, next in time and not inferior in importance, is: How far and under what limitations the truth of the words published is a defence against a criminal charge of libel. In an action for slander, or for words spoken, the truth is always a good defence; and it is settled that the truth is a defence, perhaps an equally good and unqualified defence, against a civil action for libel. But the law is certainly not so upon the trial of an indictment for libel. It must be remembered that a libel was regarded as a crime, or a public offence, because it endangered the public peace; and as an inference from this principle, the common law did undoubtedly refuse to permit the truth of the words spoken to be any defence against an indictment for libel. Lord Coke (5 Co. 125) said: "The greater appearance there is of truth in any malicious invective, so much the more provoking it is;" and Lord Mansfield only simplified and condensed the ancient rule in his famous saying: "The greater the truth, the greater the libel." This continued to be the law in England until the statute 6 and 7 Victoria, ch. 96, provided, in substance, that the truth should be a defence if it was published for the public benefit. In the case of "The people of New York vs. Croswell," to which we have before referred, this question also arose, whether the truth could be given in evidence as a defence, as well as whether the jury could pass upon the whole case, including the law as well as the fact. Alexander Hamil-

ton exerted his utmost power of argument on the affirmative side of both questions. Justices Kent and Thompson were with him, and Justices Lewis and Livingston contra. The verdict having been against the defendant, and the court being equally divided, judgment would have been pronounced had not the legislature interposed the statute of 1805, already referred to. By this it was enacted, that the truth should be a defence, provided it were published with good motives and for justifiable ends; and this is now, either by constitutional provisions, by statute, or by adjudication, the law of every one of the United States. It is also settled that the publication of proceedings of courts of justice, or of petitions to the legislature, is not libellous on the part of the publisher. But the publication of injurious rumors is not justified merely by their existence.—There is still another rule, which is universally admitted, although it is one which is not easy to define; it is, that a much larger freedom of speech or writing is allowable where it concerns a candidate for public office, and relates to his fitness for that office. The absolute necessity that the people, in a country as democratic as this is, should know all that can be known of those for whom they are called upon to vote, makes this rule inevitable. But it would be a great misfortune if this rule, which is intended to protect the public from the danger of choosing unworthy persons, should in fact deprive them of the services of the best men, who are unwilling to be made the targets for that unrestricted calumny which will always be the favorite weapon of partisan or personal malignity, when it knows that it can wield it with impunity. Upon the subject of defence, it may be proper to add, that many things which would not be sufficient for a full and technical defence (as for example, that the defendant, as printer, knew nothing of the character of the article, and had given the name of the writer), would operate strongly to mitigate the punishment if the defendant were found guilty under an indictment, or to lessen the damages in a civil suit.—LIBEL is also the name of the first process in a suit in admiralty. The whole procedure of this court follows, with much exactness, that of the Roman civil law, and the terms used are derived from that law. The *libellus* was the initiatory step in an action, corresponding to the writ and declaration at common law. In England the word is retained, for some purposes at least, in the canonical courts; and its influence remains in courts of chancery, where the plaintiff is often called the libellant, but the instrument itself is not called a libel, but a bill. In the United States, it is in practice confined to courts of admiralty. There are no especial forms which must be adhered to; and, although in each of our district courts certain forms and methods are customary and usually followed, we apprehend that any narrative of the libellant's case, which was distinct, intelligible, and sufficiently full, would be received by the court, and if necessary amended into conformity with any

established precedents. There are, however, some essentials to a libel in admiralty, none of which should be omitted, and all of which should be present, either originally or by subsequent amendment, in order to sustain a judgment. These are: 1, it should be properly addressed to the right judge; 2, it should state and designate with clearness and accuracy the parties to the action; 3, it should narrate the facts and circumstances, directly and affirmatively, upon which the libellant rests his case; 4, these should be sufficient, as stated, to give the court jurisdiction; 5, it should pray for the proper relief, specifically, and the proper process, and for relief generally. A libel is sometimes "simple," that is, it tells a plain story, continuously, from beginning to end. More often it is, and perhaps it should always be, "articulate," or divided into articles, which are successively numbered, and each one of which includes some one allegation of a specific, material fact. The purpose of this is, to enable the respondent to answer definitively and specifically each part of the libellant's case; some parts he would wish to admit, others to deny, and yet others to qualify.

LIBERIA, a republic of American negroes on the W. coast of Africa, extending S. E. along the coast from the British colony of Sierra Leone about 500 m. to the San Pedro river, with an average breadth of 50 m., between lat. 4° 20' and 7° 20' N., long. 6° 50' and 12° 40' W.; area, about 30,000 sq. m. It is divided into 4 counties: Mesurado, Bassa, Sinou, and Cape Palmas. The capital and largest town is Monrovia, a seaport on Cape Mesurado, with about 2,000 inhabitants. The other towns are Marshall, Edina, Grand Bassa, and Greenville on the coast, and Caldwell, Louisiana, Millsburg, Bexley, and Oresson in the interior. The general line of the coast is from N. W. to S. E. There are several inlets and harbors at Cape Mount, Cape Mesurado, Cape Palmas, and Bassa Cove. There are many rivers, of which the principal is the St. Paul, which enters the ocean at Cape Mesurado. It is about half a mile wide, and at low tide has 7 feet of water on the bar at its mouth. It is navigable only about 18 miles from the sea. The other largest rivers are the St. John, which empties at Bassa Cove; the Junk river, which runs between the St. Paul and the St. John; Cape Mount river, which flows into the sea at Cape Mount; and the Grand Sesters, E. of the St. John, which has 14 feet of water over the bar at its mouth. The land on the coast is generally low and sandy, except near the capes, which are elevated, and in the S. E., where the shore is bold and rocky. From the coast the land gradually rises, until at the distance of 80 miles inland it swells into forest-covered hills, and in the remoter interior into mountain ridges divided by fertile valleys. The soil is generally good, though there is some poor land. It is of a yellowish color, and tinges the rivers which flow through it. There is little swamp land, the country being almost universally broken and rocky or gravelly. The climate

is that common to regions near the equator. There are two seasons, the wet and the dry. The former begins with June and ends with October. Rain falls during the greater part of this season, though not without intervals of clear skies and successive days of fine weather, especially in July and August. In the dry season rain is rare, though there are occasional showers. The average heat of the year in Monrovia is 80° F., that of the rainy season being 76° and of the dry 84°. The mercury seldom rises above 90° in the shade, and never falls below 60°; the daily variation seldom exceeds 10°. June is the coolest month, and January the hottest. During the hottest months, January, February, and March, the heat is mitigated by the constant winds, the land breeze blowing from midnight until near midday, and the sea breeze from midday until near midnight. The climate both on the coast and in the interior is deadly to the white man, and though less fatal is still formidable to the black man born and reared in temperate regions. Strangers soon after their arrival are attacked with a fever called acclimating, which seems to be caused not by the heat, but by miasmas of the origin and character of which little is known. This sickness indicates its approach by headache, pains in the back, loss of appetite, and more or less gastric derangement, and rapidly develops into bilious remittent fever. This sometimes yields to mild medical treatment, and the patient is then prepared to endure ordinary exposure to the climate. Generally, however, the disease assumes the tertiary or other form of intermittent fever, accompanied by bilious vomiting, a dull expression of the eye, and in the febrile paroxysms intense headache and delirium. This is the African fever, and is frequently fatal. To the white man there is no acclimation in Liberia; the first attack of the fever does not secure him from subsequent attacks. To the natives the climate is not unfavorable; they are robust and have few diseases, and many of them live to a great age.—Iron ore abounds in Liberia, and it is said that copper and other metals exist in the interior of the country. The vegetables are almost endless in their variety. The most important of the native trees are rosewood, teak, mahogany, hickory, poplar, brimstone wood (so called from its yellow color), sassa wood, and many others valuable in ship building and cabinet work. Camwood and other dyewoods, ebony, the acacia which yields gum Arabic, and the copal tree are found. There are several varieties of palm, all highly useful, especially the nut-bearing palm from which palm oil is made. Medicinal plants abound; among them are the copaiba tree, the *croton tiglium*, which yields the croton oil, the castor oil plant, and the *ricinus major*, whose seeds produce a highly purgative oil, and whose wood is much used for hedges and fences. Several varieties of maize and rice of excellent quality are cultivated, and on the highlands of the interior good crops of wheat, barley, and oats have been

raised. Cotton flourishes, and sugar cane and excellent coffee are easily produced. The esculent and farinaceous roots chiefly cultivated are the sweet potato, the cassava, the yam, the tenia, which in flavor resembles the potato, and the arrow root. Cabbages, beans, peas, tomatoes, beets, cucumbers, and almost all the common garden vegetables known in America, thrive when planted in the proper season. The fruits are numerous and fine. Among them are the mango, lemon, lime, orange, guava, tamarind, pomegranate, cocoanut, plantain, banana, rose apple, African cherry, pineapple, avocado pear, and the African peach. Wild animals are becoming scarce in Liberia, and the elephant, hippopotamus, leopard, crocodile, boa constrictor, and deer, formerly abundant, are now rarely met with. Monkeys, guanas, chameleons, lizards, and ants in great variety, abound in the forests. The driver ants, which travel from place to place in countless multitudes, are welcomed by the people, for when they enter a house they soon clear it of every other species of insect and vermin.—The population of Liberia is composed of American negroes, emigrants from the United States and their descendants, who are the ruling class, and of uncivilized native tribes. The American Africans number about 10,000. The Rev. T. J. Bowen of South Carolina, a missionary sent to western Africa in 1849 by the foreign mission board of the southern Baptist convention, thus describes their condition: "The houses in Monrovia are generally two stories high, the lower one designed for servants, store rooms, &c., and the upper one, with bedrooms, parlors, and piazzas, for the family, built of wood. The furniture is similar to that used by the middle classes in America. I was pleased to see a good many valuable books and periodicals on the shelves and tables. Most of the people in short appear to live as comfortably as people of means commonly do at home. I have heard them accused of being too fond of dress and show; but if they were more so than other people who live in towns, I was not able to perceive it. . . . Liberia is full of well attended churches and schools. She has a good government, well administered under officers elected by the people from among themselves. She is steadily increasing in prosperity and in every thing that pertains to civilization." A more recent observer, the Rev. Charles W. Thomas of Georgia, chaplain to the U. S. African squadron in 1855-'7, says: "In looking into the industrial, social, moral, and intellectual character of the Liberians, justice to ourselves and to them demands that we should give due weight to the following considerations: 1, the recentness of the establishment; 2, the want of capital in those who formed the government, and those who, by immigration, continue to increase its population; 3, most of the emigrants were from the slave states, and had never learned to plan and provide for their own maintenance; those from the states called free were equally dependent; and the difficult lesson of self-dependence had to be learned under the

disadvantages arising from an unfavorable climate, new modes of labor, new elements of subsistence, new states of society, and entirely new associations. . . . The sum of these considerations is, that in any of the departments of civilized society we are not to look for much in Liberia; yet as a people they are not without excellences which reflect credit on the civilization of their adoption, their virtue and intelligence. As yet the Liberians have done but little in the way of agriculture, and until they become a producing people they cannot be wealthy, nor in any high sense independent. They do nothing in the way of manufactures, if we except the little sugar that is produced on the farms of the St. Paul's river; their main business is traffic, and though this is carried on in a small-sale way, it furnishes employment to the capital of the country and to many of the people. The petty merchants buy palm oil, rice, camwood, skins, and a few other unimportant articles, in small quantities, from the natives; for which they give tobacco, powder, cheap cutlery, and cotton cloths. The more wealthy merchants buy from these, and sell again to the English and American merchant vessels, or ship directly to the States. There are several men of considerable wealth in Monrovia. They keep large, well assorted stocks of dry goods, and find ready purchasers among their own people. . . . Society in Liberia is as good as can be reasonably expected; indeed, we found a degree of refinement and taste for which we were not prepared. The people desire to live in comfortable and pretty houses, the ladies and beaux dress in the fashion, and an aristocracy of means and education is already set up." The native population under the jurisdiction of the republic is estimated at 250,000, and comprises a variety of tribes, of whom the principal are the Kroos, the Golahs, the Veys, and the Deyas. The Kroos are black and woolly-headed, and are a stout brawny race, very industrious, and peculiarly fond of working on board ships. They are good seamen, and generally speak English. The greatest ambition of a Krooman is to marry many wives; this is said to be the chief reason why they wander from home, and labor on ships. When one of them has earned money enough to buy a wife, he returns to his native village, marries, and remains a while at home. When he desires another wife, he goes to sea again. As he grows old he retires altogether from the ocean, and lives in ease and plenty supported by the labor of his wives, who cheerfully work to maintain him in comfort. The Kroos are mostly idolaters, though they believe in one supreme God. They are beginning to embrace civilization, and to clothe themselves in the American fashion. The Golahs inhabit both sides of the St. Paul's river back of Monrovia. They are degraded and superstitious, and are one of the lowest tribes in Africa. The Veys are considered superior to other tribes on the coast in morals and intelligence. They are the only people in Africa who have invented an

alphabet for their language. Some of them are Mohammedans. The Deys live about the mouth of St. Paul's river, and are few in number. They are grossly superstitious, and are savages in manners and intelligence. A few thousand of the natives have become Christianized and civilized, and been admitted to the privileges of citizenship.—Agriculture has made but little progress in Liberia. Horses, mules, and asses cannot endure the climate, and soon wear out and die; and the oxen are said to be too small to be of much service in field labor. The native process of farming is extremely simple. In the dry season the men clear the bushes from a new piece of land with a heavy knife, and in the spring, when the rains begin to fall, the women sow rice, which requires slight cultivation, because newly cleared land produces but little grass. A crop of cassava is planted for the second year, by the end of which the grass takes full possession of the farm, and it is abandoned for new ground. In 8 or 4 years the bushes grow again and destroy the grass, and then the whole process is repeated. The American emigrants follow to a great extent the native mode of cultivation. They have added largely to the list of agricultural products, and among other plants have introduced the sugar cane, which is well adapted to the soil and climate. There are several sugar mills in the country, and in 1856 one farmer planted 100 acres in cane. In May, 1860, a cargo of sugar was sent to New York. Sugar making is the only manufacture yet prosecuted. The commerce of the republic is confined to a trade with the natives for palm oil, rice, camwood, skins, and a few other articles, which are sold to English and American vessels, or shipped to the United States. The quantity of palm oil exported in 1859 is estimated to have been worth upward of \$500,000.—There are several schools in Liberia supported by the government, and there is an excellent academy in Monrovia maintained by voluntary contributions. A college has lately been established, of which the president is Joseph J. Roberts, an ex-president of the republic. Two newspapers are published weekly in Monrovia, one of which has existed upward of 20 years. The principal sects in the republic are the Methodist, Baptist, Presbyterian, and Episcopal. The Methodists have 25 preachers and over 1,300 church members, many of whom are natives. The Baptists have 70 missionaries and teachers, and about 1,000 members. The Episcopal church has a bishop, 4 white missionaries and 8 colored, 3 of whom are natives; 30 teachers, 13 of whom are natives; and 250 communicants, more than half of whom are natives. The Presbyterian church has 2 white missionaries and 4 colored, 12 teachers, and 180 communicants.—The constitution of the republic of Liberia provides for the maintenance of the following fundamental principles: All men are born equally free in the right of enjoying and defending life, liberty, and the pursuit of happiness. All power of government is inherent in the people. Slavery shall

not exist in the republic, or be countenanced by any of its citizens. All elections shall be by ballot, and every male citizen possessing real estate shall have the right of suffrage. None but citizens may hold real estate in the republic. None but persons of color shall be admitted to citizenship. The law excluding white persons from the right of citizenship is intended to be of but temporary duration. The legislative body is styled "the legislature of Liberia," and is composed of two branches, a senate and a house of representatives. Each county is entitled to two senators, who are elected for a term of 4 years. Representatives are elected biennially, every county being entitled to one representative and an additional one for every 10,000 inhabitants. The president is elected by the people for a term of two years. With the consent of the senate he appoints the secretaries of war, the navy, treasury, and state, the postmaster-general, the judges, and many other officers civil and military. The judicial power is vested in a supreme court and several subordinate courts.—For the history of the settlement and progress of Liberia, see COLONIZATION SOCIETY. Bowen's "Central Africa" (New York, 1857), and Thomas's "West Coast of Africa" (New York, 1860), also treat of Liberia and its people.

LIBERTY. I. A S. E. co. of Ga., bordering on the Atlantic, and partly bounded on the S. W. by the Altamaha river; area, 660 sq. m.; pop. in 1859, 8,408, of whom 6,029 were slaves. The surface is level and the soil fertile. The productions in 1850 were 114,310 bushels of Indian corn, 115,119 of sweet potatoes, 1,892,463 lbs. of rice, and 1,888 bales of cotton. There were 10 churches, and 246 pupils attending schools. Capital, Hinesville. II. A S. E. co. of Texas; area, about 1,400 sq. m.; pop. in 1858, 3,534, of whom 1,214 were slaves. It is intersected by the Trinity river, upon which the soil is extremely fertile; elsewhere it is generally light and sandy. A large portion of the county is prairie, affording a fine range for large herds of cattle. Value of live stock in 1859, \$209,600; taxable property, \$1,114,458. Capital, Liberty.

LIBRARY, a collection of books designed for use and preservation, not for sale. The term is also applied to the edifice or apartment containing such a collection. In early antiquity libraries consisted of archives, which were preserved in the most sacred temples. The oldest library is said to have been founded in Memphis by the Egyptian king Osymandyas, of the 12th dynasty. It was in a division of the palace, at the entrance of which were inscribed the words: "The Healing of the Soul;" and it contained works of an unknown antiquity deemed sacred by the Egyptians, which were destroyed in the ravages attending and following the Persian invasion. The monumental cuneiform records of the ancient Assyrian, Babylonian, and Persian empires have been designated "public libraries in clay." The principal Hebrew library was in the temple at Jerusalem; it was restored after the captivity by Nehemiah, and again by Judas

Maccabæus, and perished in the conquest by the Romans. In Greece, Pisistratus was, according to Aulus Gellius, the first to establish a public library at Athens. It was taken to Persia by Xerxes, returned by Seleucus Nicator, pillaged by Sylla, and restored by Hadrian. Polycrates soon after founded a library in Samos, and large collections of books were made by Euclid, Euripides, and especially by Aristotle, whose library, after passing through two generations, was purchased by Ptolemy Philadelphus and transported to Alexandria. Of ancient libraries, the most celebrated was that at Alexandria, which at one time is said to have contained 700,000 volumes, vastly inferior however to modern volumes in average size. It ultimately included the library of the kings of Pergamus, of 200,000 volumes, presented by Antony to Cleopatra, and, after suffering repeated diminutions in the civil wars, is said to have been finally destroyed by the order of Caliph Omar. The first library at Rome was that of Paulus Æmilii (167 B. C.), the booty of war in Macedonia. Libraries subsequently became common, and in the time of Augustus it was fashionable for men of culture to have one in their houses. Sylla took from Athens to Rome the library of Apellion the Teian; Lucullus made a large collection, and his galleries and porticoes became a favorite resort for conversation; Varro, Atticus, and Cicero were enthusiastic collectors of books. One of the unfulfilled projects of Cæsar was the formation of a public library, which should contain all the works in Greek and Latin literature. Augustus established the Octavian and Palatine public libraries, the latter of which continued until the time of Pope Gregory I. More important was the Ulpian library, founded by Trajan. In the 4th century Publius Victor mentions 28 public libraries in Rome, beside many valuable private collections. All of these perished in the storms of barbarian invasion. The library of Constantinople, founded by Constantine, and enlarged by Julian and the younger Theodosius to the number of 120,000 volumes, was partially burned by the iconoclasts in the 8th century under Leo the Isaurian. Libraries were founded from the 9th to the 11th century, especially by the imperial family of the Comneni, in the cloisters on the islands of the archipelago and on Mt. Athos. After the fall of the Byzantine empire the imperial library was preserved by the command of Mohammed II. in one of the apartments of the seraglio, and was either destroyed by Amurath IV. or perished by neglect. The Moslems had an important library of Arabic books in Alexandria, and one at Bagdad, which included Greek manuscripts. In Spain they had 70 public libraries in the 12th century, that at Cordova containing 250,000 volumes. In the West from the time of Charlemagne no monastery was founded without a library. The Benedictines had celebrated collections at Monte Casino, Canterbury, York, Bobbio, and Corbei. There were others at Fulda, Hirschau, Tours, St. Germain des Prés, and St.

Gall. The revival of classical learning gave a new impulse to the formation of libraries. The universities, princely families, and many private scholars, as Aungervyle, Petrarch, and Boccaccio, were zealous collectors. With the invention of printing began a new era in the history of libraries, the number of books being greatly increased, and their cost greatly reduced. Several of the largest European libraries date from that period. The suppression of the numerous cloisters in consequence of the reformation caused many small libraries to be incorporated into the larger collections of universities, cities, and princes.—See Edwards, "Memoirs of Libraries, and Handbook of Library Economy" (London, 1859), and W. J. Rhea, "Manual of Public Libraries in the United States," &c. (Philadelphia, 1859). See also in this work the articles on BIBLIOGRAPHY, BOOK, BOOKSELLING, and CATALOGUE, and the articles on particular libraries, as ALEXANDRIAN LIBRARY, and ASTOR LIBRARY.—The following are tabular views of the largest libraries in the United States (exclusive of libraries connected with colleges, for which see COLLEGE), and of those libraries in Europe containing more than 100,000 volumes:

PUBLIC LIBRARIES IN THE UNITED STATES CONTAINING 50,000 VOLUMES OR MORE, EXCLUSIVE OF COLLEGE LIBRARIES.

Place.	Name.	When founded.	No. of vols.
New York city....	Astor	1839	100,000
"	Mercantile	1820	54,000
"	Society	1754	40,000
"	Historical	1804	25,000
"	Union Theological Seminary	1826	24,000
Albany, N. Y.	State	1818	58,500
Boston	Athenæum	1804	75,000
"	Public City	1859	70,000
Worcester, Mass.	American Antiquarian Society	1819	24,000
Andover, Mass.	Theological Seminary	1808	22,700
Providence, R. I.	Athenæum	1758	22,908
Philadelphia	Library Company and Loganian Library	1781	64,900
"	Academy of Natural Sciences	1812	25,000
"	American Philosophical Society	1742	20,000
Washington, D. C.	Congressional	1851	50,700
"	Smithsonian Institution	1849	25,000
Charleston, S. C.	Library Society	1748	25,000
Annapolis, Md.	State	1826	20,000
Indianapolis, Ind.	"	1825	20,000

EUROPEAN LIBRARIES CONTAINING 100,000 VOLUMES OR MORE.

Place.	Name.	When founded.	Printed vols.	MS. vols.	Whole No.
London	Brit. Museum	1758	575,000	40,000	615,000
Oxford	Bodleian	1597	260,000	22,000	282,000
Cambridge	University	1475	197,000	3,163	200,163
Edinburgh	Advocates'	1680	172,000	2,000	174,000
"	University	1580	100,000	400	100,400
Dublin	Trinity college	1602	126,000	1,600	127,600
Paris	Imperial	1577	1,000,000	84,000	1,084,000
"	Arsenal	1781	202,000	6,000	208,000
"	St. Geneviève	1624	180,000	8,500	188,500
"	Mazarin	1660	132,000	3,000	135,000
Strasbourg	Town	1531	180,000	1,559	181,559
Bordeaux	"	1788	123,000	820	123,820
Rouen	"	"	110,000	2,855	112,855
Troyes	"	"	100,000	3,000	103,000
Munich	Royal	1550	800,000	18,600	818,600
Berlin	"	1661	500,000	10,000	510,000

Place.	Name.	When founded.	Printed vols.	MS. vols.	Whole No.
Vienna.....	Imperial.....	1440	850,000	20,000	870,000
".....	University.....	1777	120,609	.....	120,609
Dresden.....	Royal.....	1555	800,000	2,800	802,800
Göttingen.....	University.....	1786	800,000	5,000	805,000
Wolfenbüttel.....	Ducal.....	1604	200,000	4,500	204,500
Tübingen.....	University.....	.....	200,000	2,000	202,000
Stuttgart.....	Royal.....	1765	200,000	1,800	201,800
Leipzig.....	University.....	1543	160,000	2,500	162,500
Hamburg.....	Town.....	1529	150,000	5,000	155,000
Gotha.....	Ducal.....	1640	150,000	5,000	155,000
Darmstadt.....	Grand Ducal.....	1760	800,000	4,000	804,000
Heidelberg.....	University.....	1703	200,000	8,000	208,000
Wetmar.....	Ducal.....	.....	140,000	.....	140,000
Prague.....	University.....	1850	180,000	4,000	184,000
Breslau.....	Royal and Unl.....	1811	850,000	2,000	852,000
Augsburg.....	Town.....	1587	118,000	394	118,394
Hanover.....	Royal.....	1690	120,000	.....	120,000
Erlangen.....	University.....	1743	100,000	500	100,500
Brussels.....	Town.....	1850	200,000	15,000	215,000
".....	Royal.....	1887	115,000	1,500	116,500
The Hague.....	Royal.....	1795	100,000	2,000	102,000
Rome.....	Vatican.....	1450	800,000	24,000	824,000
Bologna.....	University.....	1690	150,000	11,000	161,000
Naples.....	Royal.....	1780	150,000	4,760	154,760
Turin.....	University.....	1486	115,000	8,000	118,000
Venice.....	St. Mark's.....	1468	103,859	10,000	113,859
Florence.....	Magliabechian.....	1714	150,000	12,000	162,000
".....	Laurentian.....	1444	120,000	6,000	126,000
Milan.....	Brera.....	1768	125,000	1,000	126,000
Madrid.....	Royal.....	1712	125,000	2,500	127,500
St. Petersburg.....	Imperial.....	1747	450,000	25,000	475,000
".....	Academy.....	1726	110,000	.....	110,000
Copenhagen.....	Royal.....	1550	410,000	15,000	425,000
".....	University.....	1781	100,000	4,000	104,000
Upsal.....	".....	1621	185,000	7,000	192,000
Christiania.....	".....	1811	120,000	600	120,600

LIBRATION. See Moon.

LIBRETTO, a small book, which contains the text for an opera. The most fertile author of librettos in France is Eugène Scribe. Some of the best of Germany are those written by Kind for Weber's *Freischütz*, and by Helmina von Chézy for *Euryanthe*. Richard Wagner asserts in his *Oper und Drama* (Leipsic, 1852) that librettos, to be in the highest sense successful, should be written by the composer of the opera himself.

LIBRI-CARRUCCI DELLA SOMMAIA, GUILLAUME BRUTUS ICILE TIMOLÉON, count, a French mathematician and collector of books and manuscripts, born in Florence, Jan. 2, 1803. His father was the count Libri-Bagnano, an Italian adventurer, who was in 1816 condemned at Lyons to 10 years' imprisonment at hard labor and to branding for counterfeiting goods, and who finally became a secret agent of the king of the Netherlands. The son, being an excellent mathematician, became professor at the university of Pisa, where he published in the scientific journals several articles on the theory of numbers, on analysis, and the resolution of indeterminate equations of the first degree. Having been compromised by his political views, he fled in 1830 to France, where the friendship of Arago introduced him to the world of science. Shortly after being naturalized as a Frenchman (Jan. 2, 1833) he was called to the academy of sciences as successor of Legendre. Identifying himself with the *doctrinaire* party, he became inspector-general of public instruction, obtained the cross of the legion of honor, and was appointed inspector-general of the li-

braries of France, an office created expressly for him. Several works published by him during this period gave him a widely extended reputation. Among these were his *Histoire des sciences mathématiques en Italie depuis la renaissance jusqu'à la fin du 17^e siècle* (Paris, 1838-'41); *Souvenirs de la jeunesse de Napoléon* (1842); and *Lettres sur le clergé et la liberté de l'enseignement* (1844); to which may be added many memoirs, articles in magazines, and bibliographical labors in the form of annotated catalogues. During the latter part of the reign of Louis Philippe, Libri began to be suspected of having made use of the facilities afforded by his office of inspector-general of libraries to plunder them extensively. It was asserted that he had purloined the most precious books and MSS. from the libraries of Grenoble, Montpellier, Troyes, Poitiers, and Alby, as well as from the Mazarin collection and that of the arsenal. A report on this subject by M. Bouchy, addressed to the king through M. Guizot, estimated the literary thefts of Libri, from 1842 to 1847, at the value of more than 500,000 francs. This document, dated Feb. 4, 1848, was found in the hotel of foreign affairs by the victors of Feb. 24, and the case was at once put on trial. After the minutest investigation, Libri, who had escaped to London, was found guilty and condemned (June 22, 1850) to 10 years' imprisonment and degradation from public employment. For 2 or 3 years he continued to send letters, vindicating himself in a haughty tone, to public and literary men. He was also defended by Paul Lacroix, G. Brunet, and others, whose defence was however controverted by Lalanne, Bordier, and Bourquelot. A remarkable paper was written on his behalf by Paul Mérimée entitled *Le procès Libri*, and published in 1852 in the *Revue des deux mondes*. Its reflections upon the French magistrates were resented by the government, and the author was sentenced to a brief term of imprisonment.

LIBURNIA, in ancient geography, a district of Illyricum along the coast of the Adriatic, now included partly in Croatia and partly in Dalmatia. The country is mountainous, and the inhabitants maintain themselves chiefly by navigation. They were celebrated from early times as sailors. They occupied the northern islands of the Adriatic, and had settlements on the Italian coast. After their ships a kind of swift sailing vessels were styled *Liburnæ naves* by the Romans. Of all Illyrians the Liburnians first submitted to the sway of Rome.

LIBYA, the name given to Africa, or that portion lying between Egypt and the Atlantic, by the ancient geographers. It was also the name of a district between Egypt and Marmarica, which, in contradistinction to the former, was often designated as Libya Exterior.

LIBYAN DESERT, that part of the Sahara or Great Desert which lies E. of Fezzan and the country of the Tibboos. It is probably not less than 1,000 m. in length from Tripoli to Darfour and Waday, and from 500 to 600 m. in

width, its E. border being Egypt and Nubia. Unlike the W. division of the Sahara, the Libyan desert contains a number of oases or fertile tracts which support a moderate population, and nearly all of them are overspread with extensive groves of date trees and fields in which durra is grown. Generally, however, the surface consists of vast level sandy plains or gravelly deserts lying E. and W., separated by low rocky ridges, or shelving down in a series of terraces toward the Mediterranean.—See Bayle St. John's "Adventures in the Lybian Desert" (London and New York, 1849).

LIBYAN SEA, the name given by ancient geographers to that part of the Mediterranean which lies between the island of Crete and the coast of Africa.

LICE. See *EPIZOA*, vol. vii. p. 253.

LICENSE, in law, may be simply and well defined as a permission. Thus, a permission to go upon the land or enter the house of him who gives it; the permission accorded by a belligerent power to its own subjects or to those of the enemy to carry on a trade interdicted by war; and the permission granted by a state to its citizens to sell certain wares or exercise certain callings, are familiar examples of licenses. The most common and important of these are licenses to keep a tavern, to sell spirituous liquor, to peddle out goods, to sell by auction, and the like. All of these are governed and regulated exclusively by statutes, and these vary in the different states so entirely that it is impossible to state any general principles by which they are governed. In each state, the amount paid by way of tax for the license, if any, the privileges conferred by it, and the precautions against abuse, are determined only by the judgment of the legislatures of the several states, in reference to the wants or peculiar circumstances of each state. It is universally admitted that each state has full power to enact general police regulations for the preservation of the public health and morals. But the question has arisen, whether after a license has been given under a law of the state, it remains within the power of the state, and can be withdrawn or qualified at pleasure. If no fee, premium, or bonus is paid for the license, it seems quite certain that the state retains this power. But if a fee or other pecuniary consideration have been paid for the license, some cases favor the doctrine that there is now a contract between the state and licensee, which can be annulled only by the consent of both parties. Another question has caused much discussion, but seems now to be settled. The state of New York, by 5 statutes passed between 1798 and 1811, gave to certain parties "the sole and exclusive right" of navigating vessels by steam in the waters of the state, for a certain time. Some one claimed a right to navigate these waters on the ground that his vessels were duly licensed, under the laws of the United States, to carry on the coasting trade. The courts of New York decided that this general license gave the licensee no power

to interfere with the special license of the state of New York. But this decision was overruled by the supreme court of the United States, on the ground that the power "to regulate commerce" given by the constitution of the United States to congress included not only traffic, but intercourse, and therefore all navigation which was not completely internal to any state, and carried on only between the parts of the same. (See 4 Johnson's Chancery R., 150; 17 Johnson's R., 488; and 9 Wheaton, 1. For a license to shipping, under the navigation laws, see *SHIPPING*.)—A mere and proper license transfers no property in any thing, and gives no interest. It simply authorizes, or so to speak pardons, an unlawful act. Being a mere permission, it is evident that a license cannot permit any thing which the licensor himself cannot do; so that if one permits another simply to go upon his land, the alienation of the land will necessarily extinguish the privilege. Further, it is clear that the benefit of a license is limited to him who receives it; for as the license transfers no property or interest, the licensee has nothing to assign. Finally, it is characteristic of a license that, as it passes no estate, but rests wholly in the indulgence and will of the licensor, it is revocable at his pleasure. These are the incidents of every mere license; but if the license be supported by the grant of an interest, or be necessary to the enjoyment of a right, it attaches inseparably to it, and partakes of its incidents. It may not only cease to be revocable, but may become capable of assignment. Thus, to borrow a familiar illustration, a permission to hunt in a park, and to carry away the deer killed, is a license so far as it concerns the mere privilege of hunting; but it includes also a grant of the deer. If in such a case the grant of the property be well made, the license is irrevocable. So if one make a sale or gift of a chattel which is situated on his land or in his shop, the license to remove, though not express, but implied in such a case by law, is yet irrevocable, because the licensee has an interest in the chattel which can only be enjoyed by taking it away. But when the irrevocable right which the licensee claims, even under an express license, has the effect of diminishing an owner's control over and enjoyment of his property, the interest or estate alleged in support of it must be a real, legal one. The enjoyment of a mere parol license cannot be pushed so far as to create an easement; for such a continuing interest in lands can be legally raised only by deed, that is, by a formal instrument under seal. So that when one licenses another, by a mere parol permission, to keep hay stacks on his land, or allows the licensee to dig a ditch across it, the privilege in both cases is equally revocable even though it have been executed by the licensee. An easement would have been irrevocable, but that could have been created only by deed. But let it be supposed that one has, with another's permission, erected a building on the land of the latter; a revoca-

tion of the license in such a case would cause the licensee material injury. He has executed the permission by an expenditure of labor or money, the benefit of which he cannot enjoy if the license to go upon the land can be recalled at the option of the licensor. In such a case a court of equity will sometimes interpose for the protection of the licensee. It regards the revocation in such circumstances as fraudulent, actually, or at least constructively, and, when the threatened injury to the licensee could not be compensated in damages, has construed the execution of the parol permission sufficient to supply the place of a writing, and so to take the case out of the statute of frauds. Courts of law have generally adhered to the strict law doctrines; and, in respect to permanent structures, though there are some decisions which regard the license as coextensive with the duration of the building to which it relates, yet the weight of authority is adverse to this view, and in favor of limiting the licensee's privilege to a right of entry and removal, as in the case of ordinary chattels. The more favorable decisions rest on the doctrine of equitable estoppel, which has been borrowed from the chancery practice, and now forms a means of remedying by common law many wrongs which otherwise would not fall within the range of the common law jurisdiction. The general rule then, in the United States as well as in England, respecting licenses which concern the enjoyment of interests in lands, maintains their revocability, no matter what may have been done in reliance upon them; and no matter whether the question arise between the original parties, or be complicated by conveyance to third persons; for it has been often held that a grantee of the licensee cannot claim an absolute right in the continuance of the license, even though it be essential to the enjoyment of his grant.—In international law, licenses are permissions to carry on a trade interdicted during war. The power to grant them rests naturally with the sovereign; but in time of actual hostilities they may be immediately issued by generals or other high military or naval officers. These licenses are liberally construed, but no advantage must be taken of the indulgence which they grant; as for example, by carrying a different kind of goods from that expressly permitted, or by changing, without the consent of the granting power, the person by whom the license was to be used; for, if it be not expressly transferable, the license is personal only. A wrong description of the licensee invalidates the license, and so does a fraudulent alteration of it, even when the person claiming protection is innocent of the fraud. Under United States statutes, ships which engage in the fisheries or in the coasting trade need not be registered like ships which carry on a foreign commerce. It is sufficient if they be enrolled, though they must be every year licensed for the employment or business in which they are to engage. The particular trade is specified in the license, and they are not permitted to engage in any other.

The use of a forged or altered license, or of one issued to any other ship, subjects to forfeiture the vessel and cargo sailing under it.

LICHENS, cellular cryptogamous plants, closely allied to the algae and to the fungi, yet generally distinguishable from either by characteristic peculiarities. Thus a lichen may be defined as consisting of a *thallus*, of *apothecia*, and of *spermagonia*. The thallus is the nutritive or vegetating functional part; the apothecia contain the organs of reproduction, and are analogous to the fertile or female flower; the spermagonia contain the fecundating apparatus, and are analogous to the barren or male flowers. There is also another form of reproductive organs, which may be considered as secondary, and which are called *pycnidia*; these most usually occur in imperfectly developed lichens, or in those whose thallus is of a crustaceous character. In order to understand the structure of lichens, it will be necessary to consider these characteristics in detail. 1. The *thallus*, or organ of nutrition, consists of 4 parts, viz.: 1. The cortical layer, which is ordinarily formed of colorless cellular tissue, but where nearest the exterior surface becomes amorphous and colored, giving rise to a sort of epidermis to be seen in some lichens more than in others. 2. The gonimous layer, which is of a very lively green color, and lies immediately beneath the cortical layer; it is composed of a sort of pavement of opaque cells, not altogether continuous, which gives the lively green tints of some lichens when moistened by the rain. 3. The medullary layer or pith layer, found in the centre of the stem or thallus, and lying beneath the gonimous layer. It has 8 modified conditions as it occurs in different species, viz.: a, composed of a tissue of threads woven together into a loose web, serving to give consistence and elasticity to the plant, which is the most common form; b, composed chiefly of granules in which are often scattering threads and octahedric crystals of oxalate of lime, forming a compact white pith; c, composed of cellular tissue containing gonidia in the interior of the cellules or else between them. 4. The 4th layer is called the hypothalline; it lies beneath all the others, and is indeed that upon which the others are laid, but it is not always visible, and sometimes becomes wholly wanting in the matured condition of the thallus. In the process of development it precedes them all, but it is liable to be arrested after they are in a formative state so as to be hardly traceable or quite invisible. Its structure is filamentous or even cellular, its color generally dark or blackish, sometimes pale, rarely white. There are two forms of the hypothalline layer, viz.: a, the hypothallus, made up of blackish or bluish fibres spreading horizontally, frequently beyond the edge of the thallus, and surrounding it with a delicate fringed line, as seen in lichens which grow upon smooth rocks or on the bark of trees; b, the rhizinae, root-like fibres, branching, with their extremities sometimes formed like a brush, in color

commonly black, but sometimes gray or whitish, giving to some lichens on their inferior surfaces the appearance of a rough pile, or a shaggy aspect; they serve the purpose of affixing the lichen to its matrix. The thallus is liable to modifications of these several parts, or its tissue may be entirely homogeneous. The external peculiarities of the thallus are: the *cyphella*, little whitish or yellowish excavations upon the under surface of the thallus of *sticta*, probably serving in some nutritive function; *cephalodia*, globular-shaped, tuberculous, or shapeless swellings, looking like morbid excrescences, commonly paler than the rest of the upper surface of the thallus; *scidia*, exuberant growths of the thallus into erect, stalked, coral-like, and perhaps branching excrescences, always of the same color as the thallus itself; *lepraria*, morbid conditions of the thallus, when it becomes converted into a sterile and pulverulent state; *soredia*, partial pulverulent eruptions of the cortical layer, often in the form of scattered rounded heaps of spherical particles of a brighter color, sometimes confined to the border of the thallus, producing a rich and beautiful edging; *variolaria*, a condition of the fruit-bearing organs, where they become pulverulent; *spiloma*, pulverulent spots, most commonly black, seen upon the thallus, and resulting from the presence of small parasitical fungi similar to what we see upon the foliage of higher plants. II. The *apothecia*, or reproductive organs, commonly occupy the cortical layer, but sometimes nestle deeply within the interior tissues. Of those first mentioned, which are called discoid, there are the following modifications: *a*, peltate, large, bare apothecia; *b*, scutellate, having an exterior covering formed of the thallus; *c*, patellate, having a border or edge made of their own substance, and not of the thallus; *d*, lirellate, irregularly formed, elongated, or branching apothecia, and often varying in shape in the same species of lichen. The term nucleiform is attached to those apothecia which nestle more or less deeply in the tissue. In internal structure the apothecia consist of a conceptacle or tegumentary covering made up of cellular tissue protecting the hymenium, in which are found numerous beaded or jointed threads, among which are the *asci* or flask-shaped cells containing numerous seed-like bodies called spores. It is by these spores that the normal growth of the lichens is effected; their number is often increased by pustules or gonidia, which when detached act like cuttings, buds, eyes, &c., in the higher plants. These *asci* are not constant in the number of the spores they contain; those of some lichens have uniformly 8 spores, others 6, 4, 2, and some have only one; still others contain a very great number of spores. When an *ascus* contains 8 spores, it is called octosporous, and so on. The spores, too, differ much in size, varying indeed from $\frac{1}{100}$ to $\frac{1}{2}$ of a millimetre in length. After a while the hymenium becomes emptied out from the conceptacle, and the *asci* being dissolved set free the

spores, which, taken up by the atmosphere or washed away by the rains, are ready to germinate in such places as are suitable to their growth. So rapidly may the mere process of germination be effected, that spores immersed in water upon the slide of the microscope in the process of examination can be seen protruding filamentary threads of growth from their external walls. When the apothecia are first evolved upon or in the thallus, they consist of little buds or nuclei, containing the imperfect hymeneal layer and its forming *asci*, each of which has granular matter in its interior, which, acted upon by the *spermatogonia*, arranges itself into the spores which have been described. III. The *spermatogonia*, or fecundating organs, the barren or male flowers, so to speak, are generally very small oblong or rounded bodies, sometimes in the form of special tubercles, sometimes immersed in the superior surface of the thallus, and presenting to the eye little papillary or simple perforations (*ostioles*), of a blackish or brownish color, though sometimes of the same general hue as the thallus itself. Each *spermatogonium* has a conceptacle, *sterigmata*, and *spermatia*. The conceptacle is composed of a tissue of small cells united together into a wall, whose exterior layers are of a similar consistence with that of the thallus, but whose interior wall is transformed into particular organs called *sterigmata*. These are either simple or jointed threads, straight and undivided, or branching. The cellules which make up the *sterigmata* taper toward their summits, and bear divergent, protuberant bodies of various shapes in different species of lichens. When these reach their full development, they detach themselves from their support, and become free corpuscles, ready to be expelled from the conceptacle. Generally only one of these corpuscles is produced from a *sterigma*; but when the *sterigmata* are composed of several beads or joints, each joint can produce its corpuscle, which in fact is the *spermatium*. Frequently a very great number of *spermatia* are found within the conceptacle, which have not been excluded through the *ostiole*. Beside the *sterigmata*, barren threads are noticeable, which probably are no more than undeveloped *sterigmata*. These *spermatia* are remarkably constant in form and size as they occur in particular lichens, and thus afford excellent specific distinctions. Thus in some instances they measure $\frac{1}{100}$ of a millimetre in length; some, whose form is very attenuate, measure $\frac{1}{1000}$ of a millimetre. Their color is always white, though under the microscope they appear of a clear yellow tint. Their forms are very various, acicular, bluntly thickened at the extremities, cylindrical, cylindrical but curved, or ellipsoid. Compared with the spores, their number is immense. Among the most convincing proofs of their fecundating properties are the facts that there are several lichens destitute of apothecia, which are equally destitute of *spermatogonia*; there are others which in one part of the world never produce apothecia, but have them abun-

dantly elsewhere, and accompanied by numerous spermatogonia. Were these parasitical growths (fungi for instance), as has been maintained, such peculiarities would scarcely occur. IV. Mention has been made of a secondary reproductive apparatus called *pycnidia*. These in their exterior form have a resemblance to the spermatogonia in being furnished with conceptacles, and even in their sporiferous threads (stylospores); but these are less abundant, simple, of thicker substance, and bear much larger spores. Not only do these spores germinate, but the stylospores have the same property. Generally the pycnidia appear in the closest proximity to the apothecia, and they seem to have some intimate connection with them, as if they were fruit-bearing organs, not developed or perhaps arrested in their development, yet capable of producing spores of a particular character.—Thus we see that the essential elements of terrestrial vegetation are to be found in these plants, which hold such a subordinate rank in the scale of creation, being in fact rootless and cellular, subsisting upon the air, but furnished with stems, branches, floral apparatus, fruits, and seeds; their position in the vegetable kingdom being intermediate between the floating tribes of the algae and the fugacious forms of the fungi, or, as Fries expresses it, "having the vegetation of the algae and the fructification of the fungals." Thus ingeniously contrived and admirably fitted for an especial office, we should expect to find them in situations suited to no other vegetation, or else occupying posts among it still unfitted to its most propitious growths. According to Dumont d'Urville, the pulverulent lichens are the first plants that clothe the bare rocks of newly formed islands in the midst of the ocean; the foliaceous lichens follow these, then mosses and liverworts. (*Annales des sciences naturelles*, vi. 54.) The crustaceous lichens affect the very summits of mountains, growing near the limits of perpetual snow, and are seen near the pole, so seemingly rudimentary as to appear like colored spots of the solid rocks. They are not, however, exclusively confined to such regions, being common in some instances on the margin of the sea in countries where granitic strata especially are to be found. The sides of buildings and the surfaces of sandstone rocks are favorite situations for many kinds. The larger and more conspicuous are found in temperate and moist climates, choosing northern and western exposures; and even at the equator there are species rich and gorgeous in colors. The prevailing tints in lichens are gray, white, black, dark brown, rich green, pale yellow, and orange red. From mere specks or patches of hard, seemingly inanimate matter, the lichens assume sizes of considerable magnitude, owing to the development of their thalli, of which may be cited the following forms: the hypophloeoid, where the plant does not appear upon the surface of the substance on which it grows, but burrows beneath the bark of trees or between the fibres of dead wood, presenting to the eye only the

apothecia, in a variety of forms in different species; the crustaceous, a closely appressed condition, scarcely to be distinguished from the matrix, or else perhaps made up or broken up into distinct squamules; the fruticulose, assuming the contour of little branching shrubs, sometimes very dwarf, and sometimes, especially when pendent from old trees, of a great length; the foliaceous, varying from very small, membranaceous, thin, scale-like forms, affixed to a central or an eccentric base (peltate), or spreading out horizontally many inches in extent, and having its circumference entire, lobed, or even deeply jagged. Lichens grow upon almost every substance where alternate dryness and moisture can be found, a very few only passing much of their existence in a submerged state. Destitute of roots and dependent upon the atmosphere for their nutrition, it seems to matter little with them upon what matrix they fix. In so wide a geographical range as that over which they are spread, the same identical species must be found occurring upon very distinct kinds of trees and soils, yet maintaining their specific characters. Thus there are some species which are most commonly to be expected upon rocks, yet which frequently grow upon the bark of trees. Many species are excessively polymorphous, and present themselves under so many varieties as to render it difficult to reduce them to an original type, the color of the thallus being often affected by the chemical composition of the rock on which they grow, or the color of the disk of the apothecia remarkably diverse. Several species are parasitical upon others, occurring upon their thalli in the reduced forms of mere fruits or of spermatogonia; their own vegetative functions being in some sort supplied by the vicarious action of the subject to which they have attached themselves, or even dispensing with it, as other species do upon particular matrices.—The value of the lichens to man may be estimated from their uses as articles of food and of medicine, and from their employment in the arts. According to Linnæus, in the arctic regions of Lapland the reindeer lichen (*cladonia rangiferina*) grows in the utmost profusion, and overspreads plains hundreds of miles in extent. These are the fertile fields of the Laplanders, so that the possessor of such a barren tract thus covered with lichens considers himself fortunate; for when the cold of winter has withered up every sort of herbage, this lichen becomes the principal aliment of the herds in which consists his wealth, and on which depends the very existence of the natives of that country. The reindeer lichen was at one time by edict of Gustavus III. used in the manufacture of flour, when grain was scarce. The Iceland moss (*cestraria Islandica*) fattens cattle, sheep, deer, and swine; and out of this and of the *C. nivalis* the Icelanders make soup and even bread. According to Olafsen, one ton of Iceland moss is equal to half a ton of meal. (See ICELAND MOSS.) *Lecanora esculenta*, of the steppes of Asia, is eaten by

the nomadic tribes of those regions. The *tripe de roche* (*umbilicaria Muhlenbergii*), mixed with the roe of fishes, assists in making nutritious food for the North American Indians. Sir John Franklin was indebted to this lichen for subsistence after a 4 days' abstinence when on his journey to the shores of the Polar sea. Lichens afford valuable materials for dyeing, of which the *parelle* (*lecanora parella*) and *cudbear* (*L. tartarea*) may be cited as familiar instances. To these may be added *urceolaria scruposa* and *cinerea*, with *parmelia saxatilis*, *omphalodes*, *conspersa*, &c. *Rocella tinctoria*, *fuciformis*, *intricata*, &c., inhabitants of the shores of the Mediterranean or of the coast of Africa, Chili, &c., yield archil. Even the common yellow wall lichen (*parmelia parietina*), so abundant near our sea coasts, possesses a peculiar principle called *parietine* (Thompson), which forms a bright yellow coloring matter; this is heightened by nitric, sulphuric, or muriatic acid, and alkalis change it to a rich purplish red.—The chemical constituents of lichens are phosphate of lime, salt, manganese, iron; several principles, as *picrolichine*, *variolarine*, *orceine*, *cetrarine*, *inuline*, *erythrone*, *rocelline*, *picroerythrone*; several acids, as *parelle*, *usnic*, *orceic*, and *erythroneic* acid; others, *uncrystallizable sugar*, *oil*, *waxy matter*, *resinous matter*; *crystals*, and *oxalate of lime* in the tissues especially of *lecanora tartarea*.—The name lichen was originally given by Dioscorides, and after him by Pliny, to certain species, because of a fancied resemblance to the cutaneous disease so called, whence they were supposed to be specifics for it. Tournefort in 1719 first accurately limited the class of cryptogamic plants, assigning to it a distinct division in the vegetable kingdom. The *Enumeratio Lichenum* of Hoffman appeared in 1784, and the *Prodromus Lichenographia Suecica*, by Acharius, in 1798; in the latter lichens are distributed into 8 families, viz., the crustaceous, foliaceous, and branching. Acharius published several other works on the same subject, including the *Lichenographia Universalis* (Göttingen, 1810-'14), and *Synopsis Methodica Lichenum* (Lund, 1814), which have been generally used for identification and for the study of lichens in Great Britain as well as the United States; but in continental Europe other authors have been preferred. An arrangement of the lichens by Sprengel in his *Systema* (Göttingen, 1827) is considered admirable. The simplified arrangement of Fries, in his *Lichenographia Europaea Reformata* (Lund, 1881), has been made the basis of study by admirers of his classical beauty of language and description. Eschweiler, a profound investigator, published his *Systema Lichenum* at Nuremberg in 1824; but his greatest and most valuable contributions to this subject are to be found in Martius's *Flora Brasiliensis* (Stuttgart and Tübingen, 1838). Bayrhammer's *Einiges über Lichenum und deren Befruchtung* (Bern, 1841) gave a new impetus to these studies. The most extensive and careful essays upon their arrangement and struc-

ture have been contributed to the *Annales des sciences naturelles* (Paris), through many successive years, by Tulame, Bayrhammer, Kzigsohn, and others. Fée issued *Méthode lichénographique et genera, ornés de quatre planches*, with colored figures (4to., Paris, 1824); also an *Essai sur les cryptogames des écorces exotiques officinales* (Paris, 1824-'37), succeeded in 1837 by a supplement and revision with figures of the spores of different genera, a most valuable contribution. See also the works of Massalongo, *Ricerche sull'autonomia dei licheni crostosi* (Verona, 1852), and *Memorie lichenografiche* (Verona, 1855); Körber, *Systema Lichenum Germanica* (Breslau, 1855), and a supplement now publishing; Nylander, *Synopsis Methodica Lichenum* (Paris, 1858 et seq.); and among English botanists, Sir William Hooker, "English Flora" (London, 1823); Turner and Borrer, *Lichenographia Britannica* (Yarmouth, 1839, printed for private circulation); W. L. Lindsay, M.D., "British Lichens" (London, 1852); the Rev. M. J. Berkley, "Introduction to Cryptogamic Botany" (London, 1857).—The study and arrangement of lichens in America was perhaps as early as the earlier American floras and catalogues. In Gronovius's *Flora Virginica* (1761) are enumerated some which were observed by Clayton; and to this list were added others from Forster's "Catalogue of the Plants of North America" (London, 1774), and from Walter's *Flora Caroliniana* (London, 1788). Muhlenberg's *Catalogus Plantarum Americae Septentrionalis* (Lancaster, Penn., 1818) contains 184 species, 18 of which are considered as new. In 1819 Prof. Torrey published his catalogue of the plants of New York, in which a number of species are given. In 1823 Mr. Halsey's "Synoptical View of the Lichens of New York" appeared in the "Annals of the Lyceum," in which 170 species are given, of which 9 are claimed as new; this paper is a descriptive catalogue. Appended to the "Geological Report" of Prof. Hitchcock 116 species, including a number from the late Dr. Porter of Plainfield, Mass., are enumerated in the catalogue of the plants of Massachusetts. The "Flora of Boreal America" (London, 1828-'40), by Sir William J. Hooker, contains a general survey of the lichens of that region, and descriptions of new species. In the Boston "Journal of Natural History" for the years 1838, '39, '40, and '41, may be found an "Enumeration of some Lichens of New England, with Remarks," valuable contributions from the pen of Edward Tuckerman; and in Silliman's "Journal of Science and Arts" is an "Enumeration of North American Lichens," followed by supplementary articles in the volumes for 1858-'9. Mr. Tuckerman also published an "Enumeration of North American Lichens, with a Preliminary View of the Structure and General History of these Plants, and of the Friesian System," &c. (Cambridge, 1845), and a "Synopsis of the Lichens of New England and of the Northern States and British America" (Cambridge, 1848). His contribu-

tions to American lichenology may be seen likewise in Agassiz's "Lake Superior and its Vegetation" (Boston, 1850). Mr. Tuckerman (now professor of botany at Amherst college) has also published 6 fascicles of specimens, dried, mounted, and named by himself, of the lichens of North America, amounting thus far to 150 species. They are known as *Lichenes Americae Septentrionalis Exsiccati* (1848-'51). He is now (1860) engaged in the investigation of those of the southern United States and of Cuba. Some notices of the lichens of Massachusetts and Vermont may be likewise found in the "Journal of the Essex County Natural History Society" (Salem, 1836), and in the "Proceedings of the Essex Institute" (Salem, 1848-'56), of which particularly the description of a new genus in the *collemacea* is important. Those of the extreme west on the shores of the Pacific ocean were collected many years since by Menzies, and have been published from descriptions made on the species in the herbarium of Hooker; but others doubtless remain as yet undetected.

LICHFIELD, an episcopal city and municipal and parliamentary borough of Staffordshire, England, and a county in itself, situated on a small branch of the Trent, 116 m. N. W. from London by the London and north-western railway; pop. in 1851, 7,012. It is well paved and lighted, and the principal streets are lined with handsome and well built houses. The most interesting public edifice is the cathedral, parts of which display the early English architecture. It is 410 feet long, 158 feet wide across the transepts, and has 3 spires, the central one of which is 280 feet high. In the interior is a monument to Dr. Samuel Johnson, who was a native of Lichfield. The city has places of worship for various denominations, several national schools, a grammar school founded by Edward VI. and formerly free, several charitable institutions, a savings bank, carpet manufactories, breweries, a theatre, and a guildhall.

LICHNOWSKY, FELIX, prince, a Prussian general, born April 5, 1814, killed in Frankfort-on-the-Main, Sept. 18, 1848. He was a member of an ancient family, who hold large estates in Prussia and Austria, and who were raised to the rank of princes in the former country in 1778, and in the latter in 1824. His father, Prince Eduard Maria (born in 1789, died in 1845), was the author of an unfinished history of the house of Hapsburg (8 vols., Vienna, 1836-'44). Prince Felix entered the Prussian service at an early age, but left it in 1838 to fight in the ranks for Don Carlos in Spain, whose adjutant-general he became. A work on his reminiscences of Spain, which he published in 1841-'2, involved him in a duel in which he was severely wounded. After his recovery he visited Portugal, and wrote a work on that country which appeared in 1848. While at Barcelona a mob attacked him on account of his having served the cause of Don Carlos. In 1848 he became a member for Ratisbon of the Frankfort parliament. Conspicuous as one

of the most brilliant men of the ultra-conservative party, he as well as his companion Gen. Anerswald was killed by the mob during the outbreak which followed the ratification of the treaty of Malinö with Denmark.

LICHTENBERG, GIORG CHRISTOPH, a German physicist and author, born in Darmstadt, July 1, 1742, died in Göttingen, Feb. 24, 1799. He was educated at Darmstadt and Göttingen, was appointed a professor at the university of the latter place in 1770, and in 1777 became professor of experimental philosophy there. In his latter days he was subject to hypochondria. His most celebrated work is his *Erklärung der Hogarthischen Kupferstiche*, which was left unfinished, and not published till after his death (1794-'9.) Among his other works are the "Madhouse for Opinions and Inventions," a "Sentimental Journey to Laputa," and "Consolation for those Unfortunates who are no Original Geniuses." A complete edition of his works, by F. G. Kries, was published at Göttingen (9 vols. 8vo., 1800-'6, and 6 vols., 1844-'5).

LICHTENSTEIN, MARTIN HEINRICH KARL, a German naturalist, born in Hamburg, Jan. 10, 1780, died Sept. 8, 1857, on board the steamer between Korsör and Kiel. He studied at Jena, was graduated in 1802 as doctor of medicine at the university of Helmstedt, and in the same year accompanied the Dutch governor Janssens to the Cape of Good Hope, as his secretary and physician, and as tutor to his children. At the end of 1802 he made a tour of exploration in the interior of Cape Colony, and collected the materials for his scientific work, *Reisen im südlichen Afrika* (Berlin, 1810-'11; English translation by Anne Plumptre, London, 1812). In 1804, on the outbreak of the war with England, he served as surgeon in a regiment of Hottentot light infantry, and in 1805 was sent on a mission to some of the native tribes. After the English conquest of the Cape he returned with the Dutch governor to Europe. In 1811 he became professor of zoology at the university of Berlin, and in 1818 director-in-chief of the zoological museum. He was eminent as an ornithologist, and wrote many treatises on various branches of zoology.

LICKING, a central co. of Ohio, drained by the Licking river; area, 666 sq. m.; pop. in 1850, 88,846. It has a level surface and a good soil, mostly under cultivation, and abounds with iron ore. The productions in 1850 were 886,817 bushels of wheat, 1,433,345 of Indian corn, and 289,310 of oats. There were 32 grist mills, 60 saw mills, 4 iron founderies, 5 woollen factories, 22 tanneries, 6 newspaper offices, 99 churches, and 16,989 pupils attending public schools. Capital, Newark.

LICKING. I. A river of Kentucky, rising in Floyd co. among the Cumberland mountains, and, after a course of about 200 m., falling into the Ohio at Newport, opposite Cincinnati. It is navigable for small steamers to Falmouth, about 50 m. from its mouth. II. A river of Ohio, called the Pataakala by the Indians, rising

near the centre of the state, and flowing into the Muskingum near Newark. It furnishes valuable water power.

LICTORS, in Roman antiquity, public officers appointed to attend on the chief magistrates. The ancient kings were always preceded by 12 lictors, who bore the *fusces* and *secures*. One of the consuls was preceded by the same number, bearing only the *fusces*. Dictators had a double number. Lictors also waited on the decemviri, prætors, and proconsuls, and on some minor magistrates when in the provinces. It belonged to them to inflict punishment on condemned Roman citizens.

LIEBER, FRANÇOIS, an American publicist, born in Berlin, March 18, 1800. He entered the Prussian army at the age of 15 as a volunteer in a regiment stationed nearest the frontier. He fought in the contests of Ligny and Waterloo, and was severely wounded at the assault of Nainur. Returning to Berlin, in common with the ingenuous youth of that day, he resisted the reactionary measures of government. He was arrested as a liberal, but procured his release, when he prosecuted his studies at the university of Jena. The government placing obstacles in the way of his advancement, at the age of 21 he proceeded to Greece to take part in its struggle for independence, travelling on foot through Switzerland to Marseilles. After enduring various privations, he returned to Italy, where he was received into the family of the Prussian ambassador, the historian Niebuhr. He passed the years 1822 and 1823 at Rome in this most advantageous relation, of which he has published an interesting volume of reminiscences, mainly occupied with the table talk, on a great variety of learned and more familiar topics, of his distinguished friend. While with Niebuhr he wrote in German a journal of his sojourn in Greece, which was published at Leipzig, and has been translated into other languages. Returning to Germany with promises of safety, he was imprisoned at Kopnick, where he passed his time in study and writing a collection of poems, which, on his release by the influence of Niebuhr, were printed at Berlin under the name of Franz Arnold. Annoyed by the persecutions which he had endured, and by the prospect of others of a similar nature, he left his country in 1825 for England, and supported himself for a year in London as a private teacher, while he wrote for the German periodicals. In 1827 he came to the United States, and commenced his active career in this country by the delivery of lectures on history and politics in the larger cities. He also founded a swimming school in Boston in accordance with the system of instructions of Gen. Pfuhl, whose pupil he had been in Berlin. While residing at Boston he undertook the editorship of the "Encyclopædia Americana," based upon Brookhans's *Conversations-Lexikon*. It was published in Philadelphia in 13 volumes, between the years 1829 and 1833. Translations of a French work on the revolution of July, 1830, and of the life of

Kaspar Hauser by Feuerbach, were among his publications of this period. At New York in 1839 he translated the work of De Beaumont and De Tocqueville on the penitentiary system in the United States, adding an introduction and notes. He was now called upon by the trustees of Girard college to furnish a plan of education and instruction for that institution, which was published at Philadelphia in 1834. In the same year appeared his "Letters to a Gentleman in Germany, written after a Trip from Philadelphia to Niagara," being the vehicle of much entertaining anecdote and philosophical table talk on matters suggested by the way; and in 1835 his "Reminiscences of Niebuhr." In this year he was called from Philadelphia, which he had now made his place of residence, to the professorship of history and political economy in the South Carolina college at Columbia, and discharged the duties of this chair till his removal to New York in 1838, immediately after which he was appointed to the same professorship at Columbia college in that city. During this long period he published numerous important works, of which we may enumerate "A Manual of Political Ethics" (2 vols. 8vo., Boston, 1838), adopted by Harvard college as a text book, and commended by Kent and Story; "Legal and Political Hermeneutics, or Principles of Interpretation and Construction in Law and Politics;" "Laws of Property: Essays on Property and Labor" (18mo., New York, 1842); and "Civil Liberty and Self-Government" (2 vols. 12mo., Philadelphia, 1853). Special branches of polity or civil administration have also engaged his attention, particularly the subject of penal legislation, among his writings on which are: "Essays on Subjects of Penal Law and the Penitentiary System," published by the Philadelphia prison discipline society; an essay on the "Abuse of the Pardoning Power," republished by the legislature of New York; "Remarks on Mrs. Fry's Views of Solitary Confinement," published in England; and a "Letter on the Penitentiary System," published by the legislature of South Carolina. His occasional papers are worthy of mention, as a "Letter on Anglican and Gallican Liberty," translated into German and annotated by the distinguished jurist Mittermaier, who is also now (1860) superintending a translation of the "Civil Liberty;" a paper on the vocal sounds of Laura Bridgman, the blind deaf mute, compared with the elements of phonetic language, published in the "Smithsonian Contributions to Knowledge;" political articles in "Putnam's Monthly" on Napoleon and Utah; and numerous addresses on anniversary and other occasions. Since his occupancy of the chair at Columbia college, he has published his inaugural address on "Individualism and Socialism or Communism," which he regards as the two poles on which all human life turns, while he maintains that the problem is not to exclude one or the other, but to ascertain their true limits; also his introductory discourse to a course of lectures on the state in the college law

school, entitled "The Ancient and the Modern Teacher of Politics."—Hisson, OSCAR MONTGOMERY, born in Boston in 1880, educated in Germany and at the mining school of Freiberg, is the author of a work entitled the "Assayer's Guide, or Practical Directions to Assayers, Miners, and Smelters" (Philadelphia, 1852), and of various articles on mining in reference to this country in the "New York Mining Magazine." He was state geologist of Mississippi in 1850-'51; was engaged in the geological survey of Alabama in 1854-'5; and until 1860 held the office of mineralogical, geological, and agricultural surveyor of South Carolina. His first annual report of the last mentioned survey was published at Columbia, S. C., in 1857.

LIEBHARD, JOACHIM. See CAMERARIUS.

LIEBIG, JUSTUS VON, baron, a German chemist, born in Darmstadt, May 12, 1803. While a youth he was taught in the gymnasium of his native town; and after spending 10 months in an apothecary's establishment, he entered in 1819 the university of Bonn. Afterward at Erlangen he obtained the degree of M.D. By the assistance of the grand duke of Hesse-Darmstadt he was enabled in 1822 to visit Paris, where he devoted two years to the study of chemistry. In 1824 he read a paper before the French institute in which he explained the chemical composition of the fulminates, compounds of a base with the unstable fulminic acid, which consists of carbon, nitrogen, hydrogen, and oxygen. Thus early the study of the intricate combinations which these elements form engaged his attention; a subject which, prosecuted through the departments of vegetable and animal chemistry, has since occupied a large portion of his life. This paper attracted the attention of Humboldt, and by his influence Liebig was appointed adjunct professor of chemistry at Gießen. In 1826 he was made professor in the university, and soon established a laboratory for teaching practical chemistry, the first of the kind in Germany. It became a resort for students from different parts of the world, and especially from England, among whom are found the names of Lyon Playfair, Gregory, and Johnston. Dr. Hofmann, Will, and Fresenius were his assistants. In 1832 Liebig with his colleague Wöhler established the *Annalen der Pharmacie*, to which he continued for many years to contribute valuable papers. In 1838 he visited England, and was present at the meeting of the British association for the advancement of science. At this meeting he read a paper on lithic acid, in which he announced the discovery by Wöhler of the composition of urea and the method of making it artificially. This was received with much interest by scientific men; for the artificial production of one of the intricate compounds, before known as elaborated only by the mysterious living forces, was a pledge that the nature of these forces would be better comprehended, and the processes going on in living bodies be explained. The association requested him to draw up two reports, one on isomeric bodies, the

other on organic chemistry. The response was made in 1840, in a work dedicated to the British association, entitled "Chemistry in its Application to Agriculture and Physiology." The translation from the manuscript into English by Dr. Lyon Playfair was soon published in England and in the United States. In the preface the author states that his object in the work was "to develop, in a manner correspondent to the present state of science, the fundamental principles of chemistry in general, and the laws of organic chemistry in particular, in their applications to agriculture and physiology; to the causes of fermentation, decay, and putrefaction; to the vinous and acetic fermentations; and to nitrification. The conversion of woody fibre into wood and mineral coal, the nature of poisons, contagions, and miasma, and the causes of their action on the living organism, have been elucidated in their chemical relations." No chemist since the time of Davy, he remarks, had occupied himself in studying the applications of chemical principles to the growth of vegetables and to organic processes. In the living animal body he recognized a number of transformations exclusively dependent on the influence of the chemical forces; and in many diseases and contagions he perceived principles analogous to those at the base of chemical processes. In this work he determined the constituents of plants, and then investigated the sources whence they were derived, by what manures they were furnished, and to what extent they were obtained from the atmosphere. The action of animal manure he referred wholly to the formation of ammonia; and from this substance, chiefly as existing in the atmosphere, he argued that the nitrogenous portions of plants were wholly derived. In the animal system, he traced the introduction of disease and poison either to chemical compounds formed with portions of the body and foreign substances introduced, or to chemical changes induced, as in fermentation and eremacausis or decay by mere presence or contact of some exciting body. Although many of the theoretical conclusions of Liebig have not been adopted by chemists, and some even have been abandoned by their author, great practical benefits have resulted from his speculations and suggestions, and the true principles of agriculture and of the use of manures especially are unquestionably much better understood for his labors. To this work soon succeeded a volume of "Familiar Letters on Chemistry and its Relations to Commerce, Physiology, and Agriculture," in which the same investigations are continued. The effect of these letters in Germany, as stated by Liebig in his preface to the English edition of 1843, was "to lead to the establishment of new professorships in the universities of Göttingen and Würzburg for the express purpose of facilitating the application of chemical truths to the practical arts of life, and of following up the new line of investigation and research—the bearing of chemistry upon physiology, medicine, and agriculture—

Pha 2

which may be said to be only just begun." In June, 1842, Liebig presented to the British association a second report in response to their request in 1838. This was entitled "Animal Chemistry, or Chemistry in its Application to Physiology and Pathology." It was translated into English from the author's manuscript by Prof. William Gregory; and a third and greatly improved edition was published in 1846. The same course was followed by Liebig in this investigation which he had commenced in tracing out the changes in vegetable bodies and their causes. The nature of the substances taken into the body and of those rejected from it was carefully determined; and the specific effects of those retained for nourishment, and of those consumed for producing animal heat, were presented with a certainty and accuracy never before arrived at, and often in opposition to the current opinions of chemists. His readiness for generalizing, however, led him, as in agricultural chemistry, to adopt some theories which have not been admitted by scientific men. Great practical good has nevertheless resulted in this department also from his investigations, which soon led to a better appreciation of the nature and proper application of medicines and food. This particular subject continued to occupy his attention, and papers frequently appeared in the *Annalen* and other scientific journals presenting the results of further investigations. These were embodied in two works translated by Prof. Gregory: "The Motions of the Juices in the Animal Body" (1848), and "Researches on the Chemistry of Food." The nature of the animal tissues and of the liquid compounds of the body was fully investigated in these works, and the passage of their elements from one to another was carefully traced. The practical application, which is never wanting in the original researches of Liebig, is found in the observations upon the cooking of food, and the suggestions by which this process may be conducted with greater economy and more exact knowledge of the objects to be attained in the effect of the aliment upon the system. Liebig has been engaged with others in several publications beside those named. With Wöhler he completed a "Dictionary of Chemistry," commenced in 1837. He contributed to Geiger's "Handbook of Pharmaceutical Chemistry" (1839) the portion devoted to organic chemistry, which afterward appeared as a separate work. He also furnished in 1841 the organic portion of Dr. Turner's "Elements of Chemistry." In 1848 he established in connection with Professor Kopp an annual report on the progress of chemistry, which, with the aid of others as contributors, has been continued to the present time. In 1859 he published "Letters on Modern Agriculture," of which an English translation appeared in London and New York. The subject to which his attention has been most recently directed is the utilization of the sewage of cities; and his letters setting forth the continual loss in fertilizing material, which is experienced in all the

great food-producing countries of the world, and which must be greatly augmented when the supplies of guano are exhausted, have been read with no little interest by scientific and thoughtful men. The sewage of cities he regards as the best source from which to restore this loss.—Many honors have been conferred upon Liebig by learned societies, public institutions, and individuals. By Louis II., grand duke of Hesse-Darmstadt, he was made a baron in 1845. Professorships have been offered him in England, at Heidelberg, Vienna, and other places. But he remained at Giessen until 1852, when he accepted the professorship of chemistry at Munich and the presidency of the chemical laboratory. By his friends in Europe a sum was contributed in 1854 amounting to more than £1,000, which was presented to him, a portion in the form of 5 pieces of plate, intended to pass finally one piece to each of his 5 children, and the remainder, amounting to £460, in money. In 1860 he was appointed president of the academy of sciences of Munich as successor of Thiersch.

LIECHTENSTEIN, a principality and the smallest state of the German confederation, bounded N. E. and E. by Vorarlberg and the Tyrol, S. by the canton of Grisons, and W. and N. W. by the Rhine, which separates it from the canton of St. Gall; area, 61 sq. m.; pop. in 1855, 7,150. It has a mountainous surface, crossed by branches of the Alps, which however do not rise to any great height. The soil in most parts is fertile and well watered, producing flax, grain, wine, and fruit. Timber is abundant, and there is much excellent pasturage. Capital, Liechtenstein or Vaduz.—The prince of Liechtenstein is a member of the family of Este, and though his territory as a sovereign is so small in extent, his lordships and other possessions in Austria render him one of the richest proprietors in Germany. The family of Liechtenstein is one of the oldest of Austria. At the beginning of the 17th century its members were raised to the rank of princes. Many of them have distinguished themselves by their public services, especially as soldiers. JOHANN JOSEPH (1760–1836) took a conspicuous part in the campaigns on the Rhine and in Italy, and concluded in 1805 the treaty of Presburg. His son, Prince ALOIS JOSEPH, born in 1796, died in Eisgrub, Moravia, Nov. 12, 1858. By his wife, the countess Francisca de Paula, he had 8 daughters and 2 sons, the elder of whom, Prince JOHANN FRANZ (born in 1840), is the present sovereign of Liechtenstein. The 5 surviving brothers of Prince Alois Joseph occupy commanding positions in the Austrian empire as provincial governors and in the army; and a member of the same family, Prince Karl, officiates as chief master of ceremonies at the court of Vienna.

LIÈGE (Ger. *Lüttich*), a province of Belgium, drained by the river Meuse and its tributaries, and bounded N. by Limbourg, E. by Rhenish Prussia, S. by Luxembourg, and S. W. and W. by Namur and South Brabant; area, about

1,200 sq. m.; pop. in 1856, 508,654; of the *arrondissement* of Liège, 258,265.—Liège, the capital of the province, is situated in the middle of a plain girt by mountains, at the junction of the Meuse and Ourthe, 71½ m. by railway from Brussels, and 34½ m. from Aix la Chapelle; pop. in 1857, 89,411. The streets, excepting in the new part of the town and in some of the 10 suburbs, are steep and narrow. The church of St. Jacques is the most remarkable architectural monument of Liège, its magnificent interior containing some of the finest specimens of tracery and fretwork in the world. There are over 20 Roman Catholic churches, and a place of worship for Protestants. Liège is rich in educational, charitable, literary, and artistic institutions. The University place is adorned by a statue of the native composer Grétry, and contains a botanic garden and various public buildings, beside the university. The latter was founded by the late king of Holland in the early part of the present century, is attended by about 500 students, and is the headquarters of the Roman Catholic party. Liège, from its extensive iron works, and from its situation in a district abounding with coal and iron, has acquired the title of the Birmingham of Belgium. The neighboring village of Seraing is a focus of industry, iron furnaces, forges, and coal mines, the chief being the establishment formed by the English engineer, the late John Cookerill, and now conducted by a company. Glons, a village N. of the town, is the centre of a great straw hat manufacture, employing upward of 6,000 persons; and 3 m. from it is Hérystal, from which Pepin the Fat took his name D'Hérystal, and which is important for its steel works, coal mines, and iron foundries. The manufactures in and around the town include hardware, broadcloth, glass, leather, nails, steam engines, and all sorts of machinery, carriages, and linen and cotton goods. The manufacture of firearms, however, is that for which Liège and its environs are most celebrated. The royal cannon foundry was established there in 1802.—A village named Legia occupied the present site of the town in the 7th century. In mediæval Latin it was called Leodium. At the beginning of the 8th century it became the seat of a bishop, who in the 10th century was raised to the rank of an independent sovereign prince by the German emperor. At the beginning of the 12th century, the chapter of St. Lambert cathedral in Liège was the noblest in Europe. The repeated conflicts between the citizens and their bishops and the bishops against their allies, the dukes of Burgundy, are described in Scott's "Quentin Durward." Charles the Bold, to protect the bishop Louis de Bourbon, inflicted severe punishment upon his mutinous subjects in 1467 by abridging their privileges and ordering all the fortifications to be demolished. In 1468, the citizens having resumed their rebellious conduct, Charles condemned the town to destruction, and all the

buildings, except churches and monasteries, were burned. Many of the inhabitants were slaughtered on this occasion. The bishop, however, was murdered in 1482 by William de la Marck, the so called "wild boar of Ardenes," who wished to obtain the mitre for his son. But the audacity of the bishops was not easily to be subdued, and one of them declared war against Louis XIV., in consequence of which the town was taken by the French. Marshal Boufflers bombarded it for 5 days in 1691, and eventually abandoned it to the duke of Marlborough, who stormed the citadel, Oct. 23, 1702. The bishops were expelled on the outbreak of the French revolution in 1789, but reinstated by Austrian troops in 1791. In 1794 Liège was annexed to France, and included in the new kingdom of the Netherlands in 1814. In 1830 the Liégeois were the first and the most enthusiastic in advocating the national independence of Belgium, and the citizens have since remained uncompromising champions of liberal institutions.

LIEGNITZ, a governmental district of Prussian Silesia, comprising the N. W. part of the province; area, 5,824 sq. m.; pop. 921,002. The surface of the S. part is mountainous, the highest point being Schneekoppe, 5,000 feet above the sea, the culminating summit of the Riesengebirge. Northward it sinks into an extensive plain. The principal rivers are the Oder, the Spree, and their affluents. Some of the soil, particularly that of the valley of the Oder, is remarkably fertile, but the level grounds of the centre of the district and much of the land in the W. are sandy and overgrown with heath. Among the minerals are copper, tin, arsenic, cobalt, copperas, coal, lignite, potters' clay, &c.—LIEGNITZ, the capital of the preceding district, situated between the Katzbach and Schwarzwasser near their junction, and on the Silesian and Saxon railway, 40 m. W. N. W. from Breslau and 180 m. S. E. from Berlin; pop. about 20,000. It is an old but well built and handsome town, with 5 suburbs; is defended by a castle and surrounded by a boulevard planted with trees. It contains 5 churches; the Ritter academy, a school for nobles; several hospitals, a public library, a gymnasium, and industrial and other schools. It is also the seat of a deaf and dumb institution. Its manufactures include table linen, hosiery, hats, tobacco, &c. The annual produce of vegetables raised in the gardens of the suburbs of Liegnitz is estimated at nearly \$30,000.—Frederic the Great won there one of his victories in 1760. The neighboring field of Wahlstatt witnessed the great battle of 1241 against the Mongols, and of 1813 against the French. Liegnitz was formerly the capital of a principality. The title of princess of Liegnitz was conferred by Frederic William III., king of Prussia, upon the Austrian countess Auguste von Harrach (born Aug. 30, 1800), whose acquaintance he had made at Töplitz, and with whom he contracted a morganatic marriage at Charlottenburg, Nov. 9, 1824.

LIEN (Fr. *lier*, to tie or bind), in its broader sense, includes every hold upon or right to property to secure the payment of a debt, or the discharge of an obligation. In this sense it includes mortgages, pledges, bottomries, and respondentia. All of these are liens created by contract; but in a narrower and more specific sense, it has been well defined as "a right in one man to retain that which is in his possession belonging to another till certain demands of the person in possession are satisfied." (Hammond *vs.* Barclay, 3 East, 227.) Liens of this kind are seldom created by contract. They arise almost always by the operation of law upon the relation between the parties. The most common of these are the liens of a carrier, an innkeeper, a factor, and a salvor. In addition to these, which are treated under their own titles, it may be said that modern law tends strongly to give this security to every bailee, or person to whom property is delivered, who receives the property for the purpose of improving its condition or adding to its value by putting his labor into the materials supplied him; as a tailor, who by this rule would have a lien on the cloths delivered him to make up into garments, for his wages or compensation for so doing; a watchmaker, employed to clean or repair a watch; a bookbinder on books bound by him; dyers on goods sent to them to be dyed, &c. It is by an extension of the same principle that an attorney has a lien on the papers in his hands, and on any judgment or money he may receive, for his demands against his client. It is said, however, that while he has a lien to cover all his charges against his client, he has no lien on money recovered, except to cover his charges for receiving it, whether by suit or otherwise. For a similar reason, a banker has a general lien on the paper securities in his hands to cover his claims; and so has an insurance broker, and if the assured transferred his interest in the policy, the transferee would take it subject to the broker's lien. In all these cases it will be observed that the lien is nothing more than a right to retain possession of the property. This principle is important, because it makes possession absolutely essential to the lien, and therefore the lien is lost if the creditor give up the possession; for the creditor is then supposed to waive and renounce the security he has upon the thing itself, and to trust only to his personal demand against the debtor. For an analogous reason, it is a general rule, that if one who has a lien to secure a debt receives from the debtor other and adequate security for the debt, he thereby waives and loses his lien on the goods; and if the creditor who thus loses his lien by giving up the possession, afterward comes into possession anew, he does not hold the goods by his former lien for security.—In general, courts of common law have, properly speaking, no power to enforce a lien. They can do little more than leave the creditor to enforce his own lien, and refuse to sustain others in actions which would defeat the lien. But courts of

equity have full power over liens. Upon petition, they will decree a sale of the property to pay the debt, or take such other order as the case may require. It used to be thought that this was the only way in which the holder of property by lien could avail of it. Now, however, it seems certain, in some cases of lien, and probably in all, that a creditor may himself sell the property and pay the debt to himself, holding the balance of proceeds, if any, for the debtor; provided that in all the circumstances of the sale, the notice given to the debtor, the time, place, and manner of the sale (which should, generally at least, be by public auction), be consults, in all fairness and with reasonable discretion, the rights and interests of the debtor. In some cases there may be a kind of foreclosure; in some the creditor may have a writ of *scire facias* against the debtor; in others, there are precise provisions of law applicable to the case (as in mechanics' liens); and in all, the fair agreement of the parties will determine their rights and obligations. There may be adverse liens on the same thing, and then the question arises as to which shall prevail; and when that which prevails is satisfied, the other comes into effect. Thus a carrier of goods from a seller to a buyer may be notified to retain them for the seller, for payment of his price; but the carrier has himself a lien for the price of carrying them. He will therefore hold the goods for his own demand; but when that price is paid to him, or if he recovers it in any way, his lien is discharged, and his possession is now the possession of the seller, who has a lien for the price. This lien of the seller, especially by the extension of it into the right of stoppage *in transitu*, is of great importance, and it will be treated more fully under the heads of SALE, and STOPPAGE IN TRANSITU.—Another exceedingly important lien is that upon the land of the debtor, created in favor of a creditor by a judgment, or final decree, of a court of law. The law and practice on this subject are singularly different in different states. Thus, in the New England states, a judgment is no lien whatever, nor is execution until it be levied. But in those states land may be attached on mesne process, and this attachment, when returned and recorded as the law requires, is a valid lien. In New York every judgment and final decree are a lien on the real estate of the debtor, from the docketing of the judgment. This lien by judgment prevails in New Jersey, Delaware, Maryland, South Carolina, Georgia, Alabama, Louisiana, Tennessee, Kentucky, Ohio, Indiana, and Missouri. The limitations to or qualifications of this law are very various. It is said to have been copied from the statute 4 and 5 William and Mary, ch. 20. But that statute has been amended by the statute 1 and 2 Victoria, ch. 110, which provides that the judgment shall be entered into a record book at once, and a fresh memorandum be made therein every 5 years afterward. In New York the lien continues 10 years. It may be doubted whether,

in all our states where judgment liens exist, provisions are enacted so well adapted as those of the last English statute to guard against this lien being an injury to a *bona fide* purchaser of the land for value.—Another very important lien is the equitable lien of a seller of real estate for the unpaid balance of his price. This also is derived from England, and is unknown in some of our states, and exists with much variety in those in which it is recognized. It is not in general given by statute, nor is it acknowledged or enforced by courts of an exclusively common law jurisdiction. It is only an equitable lien, of which only courts of equity take cognizance. Traces of it may be found in the Roman civil law, but it undoubtedly came to this country from England, where it falls within the settled practice of the courts of equity. Hence, in those of our states, as for example in New England, where the equity powers of the courts have been until recently very limited, this lien of the vendor is almost unknown. It may be regarded as established in New York, Maryland, Virginia, North Carolina, Georgia, Alabama, Mississippi, Tennessee, Kentucky, Ohio, Michigan, Indiana, Illinois, Missouri, and by the courts of the United States. In Connecticut it exists in a qualified form, and did so in Vermont until it was abolished by statute. The effect of this lien is, that if a man sells real estate, and is paid half of the price, he has the estate sold as his security for the balance, as effectually as if it were mortgaged back to him. Hence this lien, and also the lien by judgment, are sometimes called equitable mortgages. To prevent this from becoming a trap whereby subsequent purchasers may be deceived, there are various rules adopted by the courts of different states; the substance of them all is, that the lien is valid against the purchaser himself, his widow, and his heirs, against all subsequent purchasers who buy with notice or knowledge of the lien, and against all subsequent grantees who take without consideration; but it is not valid against subsequent *bona fide* purchasers for valuable consideration. Formerly the lien was discharged by the seller's receiving a note or bond for the price unpaid; but now it is not discharged unless the seller receives other property as collateral security for the amount due.—Still another lien of great importance is that of mechanics on the houses and ships they build or repair. This was wholly unknown to the common law, and it has no existence in England. We believe that it was derived from the maritime lien which repairers and suppliers have upon a foreign vessel. (See SHIPPING.) It is of recent introduction, and depends almost wholly upon statutory provisions; and these differ so much as to leave but little resemblance between them, except on the main point. They all agree in giving to the mechanic a hold on the ship or house as his security for his work upon it, and sometimes for materials supplied. To prevent this lien from operating injuriously upon owners or purchasers ignorant of it, the

various statutes require public notice by record in some form, usually with the town or city clerk where the property is situated, or some similar officer whose records are easily accessible. In most, and perhaps all of the states where this lien is known, it remains in force but a short time, usually but 2 or 3 months, unless an action is brought to enforce it.—The reciprocal liens which a ship has on its cargo and the cargo on the ship, those of sailors on the ship, those of repairers and suppliers, or "material men," as they are called in maritime law, and some others of similar character, will be considered in the article SHIPPING.

LIEUTENANT, an officer next in rank below a captain, in whose absence he commands the company.—The LIEUTENANT-COLONEL is the second commissioned officer of a regiment, immediately subordinate to the colonel.—The LIEUTENANT-GENERAL, in the United States, holds military rank only below the president, who is commander-in-chief. The title has been conferred only on Washington and on Winfield Scott. In French history, the *lieutenant général du royaume* is a person invested with the powers of regent in temporary emergencies. Thus, the count d'Artois (afterward Charles X.) took this title on entering France in 1814, and held it till the arrival of Louis XVIII. The duke of Orleans in 1830 was appointed to this office by the chamber of deputies, before he accepted the crown as Louis Philippe.

LIEVEN, DOROTHEA, princess of, a Russian diplomatist, born in St. Petersburg in Dec. 1784, died in Paris, Jan. 26, 1887. Her father, Christoph von Benckendorff, originally belonging to the inferior gentry of Esthonia, pushed his fortunes by the aid of his wife, a German woman of low origin, who was a chambermaid and favorite of the empress of Paul. Her eldest brother, Count Alexander, was the all-powerful minister of police of the emperor Nicholas. She received a brilliant education, and at an early age married, at the suggestion of the empress, the prince Christoph Lieven, the scion of an ancient Livonian family, and for a time Russian minister of war. His father, Baron Lieven, was a lieutenant-general in the Russian army; and his mother, Charlotte de Vosse by birth, who had been governess of the daughters of the emperor Paul, was created a princess in 1826, and died in 1828. Thus powerfully connected, the Lievens obtained the Prussian embassy during the stormy era of Napoleon I., and remained for some time in Berlin, where the remarkable aptitude of the princess in dealing with public affairs and her eminent social qualities found full display. While controlling the main springs of political action in Berlin by her personal exertions and social prestige, she succeeded in shaping the opinions of the court of St. Petersburg by carrying on an extensive official and private correspondence with her mother-in-law, with her brother, and with the czar himself. After the French invasion of Russia in 1812 she left with her husband the court of Prussia for that

of St. James, where he was accredited as Russian ambassador. She soon became as conspicuous in London as she had been in Berlin, her diplomatic manœuvres aiding not a little her husband, as they did also Pozzo di Borgo and Gentz, who came to London between 1812 and 1814 on a special mission from the Austrian government. In 1815 she was one of the most prominent of the many distinguished persons who attended the congress of Vienna, and many of her intrigues there were said not to have been exclusively of a political nature. The princess of Lieven, the princess Zanaïde Volkonski, and the grand duchess of Oldenburg (sister of Alexander I.), were the great rivals for beauty and genius in Viennese society, and they were called "the three graces." From that time until 1834, when the prince was recalled to St. Petersburg, Mme. Lieven held a leading position in the highest political and social circles of London, where she competed eagerly for the honors of superior diplomatic skill with Talleyrand, then for a time French ambassador in England, and more particularly with his accomplished and crafty niece the duchess of Dino. Her saloon in London was a curious laboratory in which she endeavored to color and shape all political elements in accordance with the autocratic system of government, of which Russia was then the chief exponent. No sooner did a public question of English or European interest arise than the princess applied all the many resources of her cunning and plotting disposition, in order to derive from it some benefit for her imperial master, or to engraft upon it Russian political idiosyncrasies. During the agitation in England in regard to the Grecian struggle for independence, she was on the side of the Philhellenists, not from any sympathy with liberty, but with a view of strengthening Russia by weakening Turkey. She was active among those who conspired against the establishment of Belgium as an independent kingdom. Her talents and blandishments were duly appreciated in London society, but she was too fond of political intrigue and agitation to command the full confidence of English statesmen. Castlereagh, Canning, and many of the most eminent men of Great Britain, however, were among her intimate acquaintances. With a view of giving the tsesarevitch (the present emperor Alexander II.) the benefit of the instruction and the society of a lady of Mme. Lieven's vast experience, she and her husband were recalled to St. Petersburg in 1834. The prince was appointed governor of the young Alexander, but his office was almost nominal, and for some time his wife discharged his functions as tutor as efficiently as she had acquitted herself of his duties as ambassador. He however accompanied the tsesarevitch on his travels in southern Europe, while the princess, who had been previously appointed lady in waiting of the empress, remained attached to the Russian court. In 1835 she had the misfortune to lose two of her children, respectively aged 13 and 8. Afflicted

by this calamity and yearning for a change, and at the same time for a more independent social atmosphere, she established herself in Paris in 1837, where she took up her residence in the hôtel Talleyrand, the large and beautiful mansion inhabited formerly by that minister, from whom its name is derived. After the death of her husband, which occurred during his visit in Rome, Jan. 10, 1839, she continued to reside in Paris, where her house became a great social focus during the reign of Louis Philippe. She was on peculiar terms of intimacy with M. Guizot, with whom she had become acquainted in London. She has been often called the Egeria of that statesman; but while the associations which mythological traditions establish between the nymph of that name and the Roman lawgiver Numa were believed to have been matrimonial as well as political, the relations between the adroit Russian princess and the austere French legislator were understood to be based solely upon mutual friendship and strong political sympathies; and the report circulated shortly before her death of their private marriage was not credited. The saloon of the princess of Lieven in Paris was for many years a favorite resort of the chief political, literary, artistic, and social celebrities of that metropolis, and the motley assembly of persons who congregated there included almost all phases of society, from the stately prime minister down to the sprightly comedian. Hence it became one of the fountain heads of the political and fashionable gossip of Paris. Thiers and Molé, the representative of Metternich's policy, Count Apponyi, and the constitutional Spanish statesman Martinez de la Rosa, Lord Granville and Gen. Cass, Lord Lyndhurst and Mr. Bowring, Mme. Thiers and Mme. de Flahaut (the British Baroness Keith), politicians, diplomatists, and ladies of all parties, met at the receptions of the princess; and the principal business of the Russian embassy was done in her boudoirs. With correspondents and acquaintances in every part of Europe, and with her great control over society, she obtained a mass of political and personal information which she forwarded to her friends in Russia. She was on terms of personal friendship with almost every eminent statesman of her time, excepting Lord Palmerston, who distrusted her influence, and of whom she became accordingly an unrelenting enemy. After the revolution of Feb. 24, 1848, she removed to London, but returned to Paris during the presidency of Louis Napoleon, and resumed her receptions in the hôtel Talleyrand, when, beside Guizot and the duke of Noailles and many of the other old attendants upon her reunions, Count Morny, Persigny, Fould, and other notabilities of the new régime, soon united there in social intercourse. Her saloon, however, possessed no longer the cosmopolitan prestige which distinguished it in former times, and was regarded as the headquarters of the Orleans party, although the princess herself professed to keep aloof from all political agitation. After the proclamation

of the empire, she was introduced at the court of Napoleon III., and for some time preceding the Crimean war her saloon became again of great political importance, the princess aiding the Russian ambassador Count Kisseleff in keeping the court of St. Petersburg informed of the progress of events. After the outbreak of the war, however, when Kisseleff and the principal Russian residents of Paris went to Brussels, the princess also spent some time in that city, and was visited there by her faithful friend M. Guizot. In Jan. 1855, she sought and received, under the plea of ill health, permission to return to Paris, where she lived in the utmost retirement until after the restoration of peace in 1856, when her hotel was again thrown open to her numerous friends. Early in Jan. 1857, her health began to fail; but she was in full possession of her mental powers to the last moment. She was a Protestant in faith, and previous to her decease had a long interview with M. Cuvier, a Protestant minister of Paris. Her death-bed was attended by her eldest son Prince Paul, by her nephew Count Benkendorff of Stuttgart, and by M. Guizot. She left a large fortune and a remarkable collection of valuable jewelry.—The princess of Lieven was one of the most active diplomatists of modern times. Her knowledge of history, literature, and languages was extensive; she wrote and spoke the French language with great elegance and facility. Her memoirs would undoubtedly throw light upon many of the diplomatic transactions of the last 50 years; but the announcement which appeared soon after her death, that she had left them in a state of preparation for publication, seems to have been premature, although it is well known that a great mass of political correspondence and documents is contained among her papers.

LIFE INSURANCE. See **INSURANCE**.

LIFE PRESERVER, a contrivance brought into general use within the last 30 or 40 years as a means of preserving persons from drowning. It has been made by act of the U. S. government and of some of the states a necessary article of furniture of steamboats, each boat being required to keep at hand a certain number proportionate to her passenger capacity. Life preservers have been made of various forms and materials, the object in view being to furnish a very buoyant article that can be readily and securely attached to the upper part of the person, or seized and held by those in the water. Pieces of cork have answered this purpose, being conveniently shaped for fitting to the body and provided with cords for attaching them fast. Hollow vessels of wood or tinned iron, made air-tight, and shaped so as to serve on board the vessel as seats, have been much used. In one form the seat is made double, and opening on hinges forms a rectangular float in the centre of which is an aperture sufficient to admit the body of a man, his arms hanging over the sides. Bags of caoutchouc, so made as to be readily filled with air by blowing into them, and shaped for fitting round the neck

or body, have also been largely employed for life preservers; and in other forms they have been made into vests, shirts, and jackets, which, constantly worn on board the vessel, could when occasion required be distended with air, giving great buoyancy to the person wearing them.

LIGHT (Sax. *lita*, allied to Lat. *lux*, and Gr. *λως*, a shining), a name given, first, to the yet unknown physical agent or cause of the illumination and visibility of bodies in nature; secondly, to the condition of bodies while acted on by such cause; and thirdly, to the sensation arising from the reception of its influence upon the sensitive portion of the eye. Important as is the part which light plays in the physical universe, and familiar as are its manifestations, we can as yet speak with certainty only of its phenomena and their laws. But these very facts have served in all ages to render the subject one of peculiar interest to philosophical minds; and many theories of the nature of light have accordingly been proposed, some of which will presently be named. All natural objects are obviously divisible into two classes: those which originally give forth or emit light, and those which do not. The former are self-luminous, or, as commonly termed, luminous, and are spoken of as sources of light; the latter are commonly said to be non-luminous. Most bodies on which light from a luminous source falls become for the time capable of impressing the retina in the same manner, though not in so intense a degree, as the original source; bodies in this state are said to be illuminated, and in truth they are rendered temporarily luminous. The great and incessant sources of light are the bodies which we now term suns—the centre of our planetary system, and the fixed stars. All solid substances, heated to about 977° F., begin to emit light, and are then said to be incandescent. The light, at first a dark red, becomes successively bright red, yellow, bluish, and white, its brilliancy at from 2000° to 8000° becoming quite insupportable to the eye. Liquids and gases require a higher temperature before incandescence begins. Simple flame is incandescent gas; but the bright flames of illuminating gases, coal, wood, &c., are rendered so by the presence in them of ignited solid particles, usually of carbon. The incandescent or ignited state is produced by heat only; but the cause of the heat may be chemical action, electricity, friction, or compression. Certain minerals, after exposure to the sun, emit light in the dark; wood and some animal substances, as the bodies of fish in certain states of decay, give out light unaccompanied with sensible heat; and many living bodies, as glow-worms, similarly emit light; these cases will be treated in the article **PHOSPHORESCENCE**. A new source has lately been found in the conversion of dark radiations to light, for which see **FLUORESCENCE**. Thus the direct sources of light may be grouped in 4 classes—suns, incandescence, phosphorescence, and fluorescence; although the third of these includes cases which

are probably quite unlike, and may require a further analysis. The visibility of the sun and stars, and of remote objects on the earth, proves the great distance to which, and freedom with which, either the agent producing light or its effect is transmitted through space. A space or body which offers no obstruction to the passage of such effect, is a free or perfect medium for light; any body which intercepts a portion only of the light, is an imperfect medium. The interplanetary spaces are assumed to be examples of the former, water and glass of the latter; and the latter kind of medium may be either homogeneous throughout its extent, or heterogeneous. That, in a homogeneous medium, the luminous effect is propagated always in straight lines, is a truth derivable from many simple observations, and one which was understood by Euclid and the followers of Plato. The emission of light from a luminous body thus tends to occur in all directions in straight lines, and is termed radiation. The lines of luminous action or effect are what we term rays; so that these are not necessarily distinct and individual objects having the form of needles or straight filaments, as often conceived of, but merely the places of certain lines in space joining a luminous with lighted points. A collection of these lines, parallel, forms a beam of light; of lines separating as they advance, a divergent pencil; approaching as they advance, a convergent pencil. Any highly perfect medium for light is said to be transparent or diaphanous; and the property of such a medium is termed diaphaneity. Bodies through which objects are indistinctly visible are said to be semi-transparent; those through which only a glimmer of light is received, showing the places but not the characters of objects on the further side, translucent; and those through which no perceptible light passes, opaque. Thin plates of clear and well polished glass, or ordinary layers of air, are almost perfectly transparent; but with increase of thickness of any such medium, more light is intercepted, and the transparency of the entire depth lowered. Ground glass, oiled paper, polished horn, and gold leaf are good examples of translucency. As the effect of increased depth of medium, the sun's rays are much less powerful when coming to us from the horizon than when from the meridian. Bouguer has calculated that, at a depth of 700 miles, the atmosphere would become totally opaque to solar light, as water is at a depth of about 700 feet. The conclusion is that absolute transparency and absolute opacity are alike unknown to us; hence that all bodies, at least in certain degrees of tenuity, are media which transmit a portion of the incident light, and intercept another portion. But when rays from a luminous source strike the surface of a body in any degree opaque, and which is not absolutely rough and black, a portion of the incident light, greater or less, is returned from such surface. In proportion as the surface is polished, a larger portion of light, which proceeds back at an angle bearing always a fixed re-

lation to that of the incidence, is returned. In proportion as the surface is rough, and at the same time approaches a light color, or white, a larger portion of light is returned in an entirely different manner; in this latter case, every point of the surface impinged upon becomes a centre from which light having the color of the object radiates in all directions, as from a self-luminous body. In proportion as an illuminated body is both light-colored and smooth, at least up to a tolerable degree of polish, it returns more light of both the sorts now named; but though the two kinds of rays are thus in certain directions intermixed, their effects are not so. The light returned at a definite angle, and whose resiliency is due to polish of the arresting surface, always shows in that single direction images of the object from which the incident rays proceeded, and that are perfect in the ratio of the quantity of light thus returning. The light radiated from every point of the illuminated surface, and in all directions, never shows images of its source, but always renders visible the illuminated object itself. The former set of returned rays, moreover, have always the color of the light from the original source; the latter have always the proper color of the illuminated body. Thus, in all respects, these two kinds of returned rays are found, by the observation of the daily phenomena of light, to be radically different; and this difference Arago and others have experimentally verified. (See COLOR.) It is customary, in most or all treatises and books upon this subject, to say that the two kinds of returned light are thrown back from the illuminated body in essentially the same manner. That portion returned at a definite angle is commonly said to be regularly reflected; that portion which is radiated in all directions is said to be irregularly reflected; the explanation of the difference in the results being that, in the former case, the beams and pencils are returned in their proper relations to each other; in the latter, shivered or splintered by the roughness of the surface on which they had impinged, and scattered in all directions. This explanation is not satisfactory; it is not sufficient to account for the radical difference of the results. Light reflected, upon any supposition or in any manner, must be, after as before reflection, the light of the original luminary or source, must have the colors of that light, and can only show images of the source from which it proceeded. So long as it rebounds from a surface, it can show us no qualities of that surface, but only its own; just as echoed sounds never in themselves convey to us the qualities of the echoing surface, but always those of the original bell, voice, or other source of sound; the surface impinged on, when too much broken, returning nothing at all. But the experiments showing that the light by which illuminated objects are visible is light polarized by refraction, and hence has emerged through the surface of the visible object, instead of being reflected from it, are conclusive. As, of two pianos or viols near each

other, when one is forcibly struck, the accordant strings of the other are thrown into agitation, and so reciprocate or reproduce (not reflect) the original sound; so, when light falls upon any body not so highly polished as to return it all by reflection, or as a mirror (and no bodies do this perfectly), some portion of the light enters among the superficial molecules of the body, is arrested by them, at the same time exciting an agitation among them similar in character to, though less in degree than, that of the original luminary, and the molecules thus agitated become temporarily new centres of radiation, throwing off their own, not reflected light, in all directions. It is only necessary further to suppose that the molecules have by their constitution the ability to respond only to agitations of rays of a certain color or colors. Here, again, we have an exact parallel in sounds; for if, of two instruments containing each a complete octave, all the keys of one were forcibly struck at once, all the keys of the other would together reciprocate (the case of bodies that in sunlight appear white); while, if the second instrument comprised but some portion of an octave, only the keys present could respond (the case of bodies that in sunlight appear colored). All visible objects, then, and to the exact extent of their visibility, are such because they are for the time luminous; the difference being that luminaries proper and incandescent bodies are originally and permanently light-giving during the continuance of certain conditions, while the objects they illuminate are thus rendered secondarily and temporarily luminous.—We are now prepared to understand the ways in which light falling on media or bodies is disposed of.

1. In the degree in which the body is both opaque and polished, the impinging rays are caused to rebound, returning at a definite angle; *i. e.*, the light undergoes reflection.
2. In the degree in which, with a polished or otherwise favorable surface, the body is transparent, the rays enter and pass through it (transmission). Under peculiar conditions, this transmitted light is bent from its path (refraction); or decomposed into elementary colors (dispersion); or it becomes endowed with peculiar relations called polarities, in respect to media or surfaces it may afterward impinge on (polarization). For the laws of these several phenomena, see *OPTICS*, and *POLARIZATION*.
3. In the degree in which the body is opaque, or its surface is unpolished, or both, the original light enters and disappears within the body; it undergoes extinction. This result, when the light is not reëmitted, but lost as such, is commonly termed the absorption of light; but, unless understood as a swallowing up of the luminous energy in the work or effects it can produce, the term is not well chosen. The obvious idea of absorption is that of the action of a porous body in absorbing liquids and gases. But, unlike the case of these latter substances, the light taken in by a dark object does not remain in it as light; all we know is that it disappears within the body—it is extinguished

as light. And yet it is not lost, as no form of energy can be; but in disappearing, it gives place to one of two classes of results. So far as the molecules of the extinguishing body are fitted to reciprocate the energy or agitation it tends to impart to them, they are affected accordingly, becoming new centres of agitation, and of radiation of light, by which the body then becomes visible in all directions; this is secondary luminosity. But so far as, owing to the character of the molecules, or their relation to the colors in the rays they receive, they cannot thus reciprocate and reëmit the incident light, this is extinguished as light, and made to reappear in some other form, as that of heat in black and dark bodies, and in other cases, probably, that of electricity, or chemical affinity. Striking confirmations of these views are found in the facts that the most transparent media, as pure glass, become highly opaque and visible by simply grinding and roughening their surfaces; and that no body can be seen of a color that is not in the light falling on it; so that an object that in ordinary lights is of a fiery red, illuminated only by a pure blue light appears black.—As a consequence of the general straight-lined propagation of light, the space on the side of an opaque body opposite to any luminary must be in respect to its rays left in darkness, thus forming a shadow. The term shadow is commonly applied to the darkened spot on any light screen or surface, from which by an intervening opaque body the light has been intercepted. But in truth, such dark spot or figure is always a mere section of the true shadow, and owing to the cutting of the surface showing it in some direction across the axis of the true shadow. The latter, whenever the luminous surface is very small, compared with the size of the intercepting body, is always in effect a frustum of a cone, or regular or irregular pyramidal figure, whose apex is the luminous point, its lesser base a cross section of the opaque body, and its larger base found either on the screen already mentioned, or lost in space. The form of the darkened figure thus cast is of course determined by that of a cross section of the object. When the luminary is larger than the opaque body, the figure in space from which all light of the former will be excluded is conoidal or pyramidal, having its base at the section of the obstructing body, and its apex in space where the rays from opposite sides of the body meet beyond it. When the surface of the luminary is somewhat extended, there will be a belt of space surrounding the complete shadow, from which light from some but not all parts of the luminary will be intercepted. This partially lighted space, when made evident on any screen or surface, is called the *pénumbra*; the middle or darkest portion, the *umbra*. In the case of the moon's shadow cast on the earth, the partial shadow, being in fact a hollow cone enclosing the complete one, becomes manifest on the earth's surface as a partially lighted ring surrounding one of complete exclusion of the sun's direct rays. (In re-

spect to fringes bordering shadows, see *DIFFRACTION OF LIGHT*.) The depth of a shadow cast where a single light is present is judged by contrast; and it is therefore pronounced intense in the inverse ratio of the intensity of the light surrounding it. Light, emanating from a point or minute luminous surface, follows the same law of decrease with distance as all other forces radiating from a point; namely, the intensity at any distance is in the inverse ratio of the square of the distance. Consequently, if two lights of unequal brilliancies can be placed at such distances from a screen that, falling on different parts of it, the shadows they cast, or the illumination they give, become of sensibly equal intensity, then it follows that, within the limits of error necessary to vision, the two lights have illuminating powers that are to each other in the direct ratio of the squares of their respective distances from the screen; and hence, other qualities being also considered, their relative values for purposes of illumination are readily found. If the two sources of artificial light, placed at distances of 8 and 4 feet respectively from a screen, cast separately equal shadows or illumination on parts of the screen, then, other things being equal, the value of the latter is $\frac{1}{4}$ that of the former. This is the fundamental principle of photometry, or light-measuring; and any contrivance for carrying into effect such comparisons is called a photometer. Of these there are several forms in use; among the earliest are those of Rumford, in which the shadows cast are compared, and of Ritchie, in which the two eyes, looking into separate compartments of a box something like that for holding stereographs, see each a portion of a screen illuminated by one of the two lights only, and thus pronounce when the two reach equal brilliancy. But in all these simpler expedients there are sources of error, especially that arising from differences of color in the two lights, which readily deceive the eye in respect to the mere fact of equal or unequal intensity. To obviate these difficulties, photometers polarizing the light before examination have been devised, but probably none are as yet absolutely correct. Perhaps the most correct, as well as convenient and simple of the common forms, is that recently suggested by Bunsen. A disk of paper 4 or 5 inches in diameter is rendered translucent, save a spot in the middle about an inch across, by saturation with paraffine or stearine dissolved in oil of turpentine or naphtha. This disk is placed directly between the two lights, and so as to slide along a scale showing their respective distances. Placed so that the intensity of the two lights is unequal, a difference in the apparent brightness of the oiled border and the opaque centre is seen from either side; but when slid to that point at which the two illuminations become sensibly equal, all parts of the disk have, and upon either side, the same apparent brightness. Of course, all intensities found by use of these instruments are comparative merely. The actual light a body will cast on a given surface

depends not only on the absolute intensity of any unit of the luminous surface, and on distance and transparency of intervening media, but also on the whole extent of luminous surface. Thus is explained the far greater illuminating power of our sun, which has a sensibly large surface, than that of any fixed star, which, owing to remoteness, dwindles to a point; and of the sun itself, the light from the central part is much more intense than that from the margins of the disk. The most intense of artificial lights, that of charcoal points under the action of a powerful galvanic current, and that of lime in the flame of the oxyhydrogen blowpipe, are much inferior to that of the solar beam at the earth's distance. The latter, as calculated by Wollaston, exceeds that of 5,500 wax candles of ordinary power at one foot from the lighted surface.—The notion of the ancients, that the propagation of light is instantaneous, was first disproved by Roemer, a Danish astronomer, in 1676, by observing that the eclipses of Jupiter's moons appeared about $8\frac{1}{4}$ minutes later when the earth was in that part of her orbit most remote from the planet than when nearest to him; and he accordingly calculated the velocity of light at about 192,000 miles per second. From the fact of aberration of light of the stars as received at the earth, and by a comparison of the amount of this aberration with the known velocity of the earth, Bradley in 1725 deduced the rate of light as 195,000 miles per second. Perhaps the most accurate result obtainable from these methods is that which gives the velocity as 191,500 miles per second. In 1850 Foucault, by means of a turning and of stationary mirrors, and Fizeau, by means of two telescopes so placed that the image of a light formed at the focus of one became the object viewed through the other, experimented with a view to determine the time occupied by light in passing over known distances at the surface of the earth; and their results agree very closely with each other, and with that already given.—Various theories have been presented in respect to the nature of light and the method of its propagation, only two of which have prominently occupied the attention of the scientific world. The earliest of these, now commonly termed the corpuscular theory, and, from at least an indirect adoption of it by that philosopher, the Newtonian, seems due to the Pythagoreans, who taught that vision is performed by means of particles or films emanating from the surfaces of visible objects and entering the eye. The rival theory, at that early day, of the Platonists, that vision is due to the emanation of an influence or power from the eye, has been long since abandoned. Franklin urged against the corpuscular theory some of the objections that are most fatal to it; as, that the momentum of particles flying with such a velocity should be greater than that of a 24 lb. ball discharged from a cannon, while yet they do not drive before them the smallest dust, and penetrate transparent bodies in all directions; the consequent diminution of the sun

with loss of attractive power, and of the balance of the solar system; and it might be added, the impossibility of giving to so minute particles any such velocity. But the corpuscular theory requires that light entering a denser medium should, by the attraction of the latter, be accelerated in its course; while by showing experimentally that the contrary is true, and that light is retarded within the denser medium, Arago, Foucault, and Fizeau have severally given to this theory its final disproof. The theory of light now most generally received is that developed by the distinguished Dutch philosopher Huyghens, and proposed by him in a treatise written in 1678, and published in 1690. According to this, the undulatory theory, light is propagated by means of pulses or waves of disturbance, undulations, originated in some way at the surface of luminous bodies, and spreading on every side with its known velocity; these undulations taking place in the substance of an extremely rare and tenuous, but highly elastic medium, termed ether, which is supposed to pervade all space, as well as all bodies, or at least those which are transparent. The undulations are supposed to be of the kind termed transverse, that is, like water waves, occurring across the course of propagation; the beam of white solar light to be a compound or sheaf of rays, not only of the different primary colors of the spectrum, but also of actinic and calorific rays, all existing in it actually or potentially, each distinct kind of ray, indeed, having a distinct refrangibility only in virtue of a certain fixed rate of vibration and length of the corresponding light wave; and, if luminous, having a certain effect upon the eye which we recognize as a distinct color. Thus, refrangibility, dispersion, and color are all explained by wave length; and this is determined by the colors proper to transparent films of known thickness. (See COLOR.) According to the calculations of Young, the following are the lengths of undulation, in fractions of an inch, of the several colors, and the consequent number of undulations per second:

Colors.	Wave length.	Undulations per second.
Extreme red.....	.0000266	458,000,000,000,000
Red.....	.0000256	477,000,000,000,000
Orange.....	.0000240	500,000,000,000,000
Yellow.....	.0000227	535,000,000,000,000
Green.....	.0000211	577,000,000,000,000
Blue.....	.0000196	622,000,000,000,000
Indigo.....	.0000185	658,000,000,000,000
Violet.....	.0000174	699,000,000,000,000
Extreme violet.....	.0000167	727,000,000,000,000

All the ordinary phenomena of light admit of a satisfactory mathematical explanation in accordance with this theory; and the same may be said of most of the observed phenomena of a more peculiar character, as those of diffraction, double refraction, and polarization; and some very curious predictions deduced from it have been experimentally found to be true. Indeed, by many of the authorities of the time in optics, it is considered as firmly established; and it has been characterized as, after that of universal

gravitation, the most comprehensive and happy of all the hypothetical generalizations of physical science. On the other hand, the necessity of perfect continuity of the ethereal medium throughout space, and the immense elasticity or resistance to compression required by a medium that shall transmit undulations at such speed, with the consequence of a retardation of the heavenly bodies in their orbits, which has not been well made out in fact, are still considered by many as serious objections to the theory. To obviate some of these, Rankine of Glasgow has proposed an oscillatory theory of light, in which the medium is not supposed continuous, but as made up of separate particles at considerable distances from each other, having opposite polarities on their opposite sides, and by a wave of rotations of which (i. e., a reversal of polarities propagated through them successively) the influence we term light is transmitted. This theory, in effect, by allowing space between the particles, abandons the necessity of a medium. Thus, the nature of light is still enigmatical. But we venture to express the belief that it will yet be found that nothing is gained by the assumption of an ether, nor of any medium or projected particles, filling all space, and so, on any theory yet advanced, necessitating an immense waste of light-producing energy, in spaces where, no matter being present, no effect of light can appear. It is certain that, in vacuity, light is never originated or detected; that mere space can neither become luminous nor be illuminated. Thus, all we know of light, either as cause or effect, is as a something connected with and manifested through matter. The undulatory, not less than the corpuscular theory, has materialized the conceptions of physical philosophers, and so has tallied with the tendencies of the time. But let only a new idea be arrived at of forces as something capable of acting from a distance, and over unoccupied spaces, as is at least obviously true in the cases of gravitation, magnetism, and electricity, and it will then follow that, without uncumbrous intervening machinery, the energy of the sun or of a fixed star can, by a sort of luminous induction, excite light upon the presented face of the earth and objects upon it; which light, when thus excited, although it is an affection of the matter by which it is shown, may still exist by undulations in that matter, as the air or bodies; and may in these media, and not in a supposititious one, obey all the well ascertained laws of the undulatory theory.

LIGHT, ABERRATION OF. See **ABERRATION.**

LIGHT, ZODIACAL. See **ZODIACAL LIGHT.**

LIGHTFOOT, JOHN, an English biblical commentator, born at Stoke-upon-Trent, Staffordshire, in March, 1603, died at Munden, Hertfordshire, Dec. 6, 1675. Having completed his education at Christ's college, Cambridge, he was ordained, and became chaplain to Sir Rowland Cotton, a celebrated Hebrew scholar; but his anxiety to improve himself in rabbinical learning induced him to remove to the vicinity of London, where he could have ready access to

libraries. In 1649 he was appointed minister of St. Bartholomew's in London, and a member of the assembly of divines sitting at Westminster. In 1648 he preached before the house of commons, and in the same year was made master of Catharine hall, Cambridge. In 1655 he was chosen vice-chancellor of the university. At the time of his death he was engaged on the "Harmony of the New Testament." The first collected edition of his works appeared in 1684; the best edition of them is that of the Rev. J. R. Pitman (13 vols. 8vo., London, 1822-5).

LIGHTHOUSE, a structure from the top of which a light is shown at night as a direction or warning to mariners. Lighthouses are necessarily situated on headlands, isolated rocks or sands, and pierheads; and from the benevolence of their design, and in many instances from the boldness of their construction, they have always been objects of interest independently of their use to mariners. We propose to treat the subject under the following divisions: 1, materials and mode of construction; 2, method of illumination; 3, auxiliary safeguards to navigation; 4, history and statistics. I. *Materials and Mode of Construction.* The materials used in the construction of lighthouses are wood, stone, brick, cast iron, and wrought iron. Stone, brick, and iron are the most important, and are used exclusively in all large lighthouses. The most noted lighthouses in the world are built of stone; and in northern climates, where the first cost is not the great consideration, stone should be exclusively used. The form of all stone lighthouses approaches more or less the frustum of a cone or pyramid. They are sometimes built to include the keepers' apartments, but more usually they merely contain the staircase and cleaning and watch rooms, with a receptacle for the oil butts. In all cases where large lighthouses are built of this material, the masonry should be of the best cut stone with hydraulic cement mortar. The first cost should never be so limited that this principle cannot be fully carried out. The same principle applies to brick lighthouses, which should be built of the best and hardest bricks, laid in hydraulic cement mortar. The interior walls of all lighthouses should be as separate as possible from the outer walls, in order that there may be a free circulation of air between the walls. The dryness of the inner wall is insured by this arrangement, without which all large masses of masonry like large lighthouses must be constantly damp. The inner wall must of course be firmly tied to the outer shell by masonry or iron ties. Cast iron lighthouses were first erected by Mr. Alexander Gordon, an English civil engineer. Two were constructed in England, and were erected on the islands of Bermuda and Jamaica. From the fact that every part of the structure can be completed at the workshop, cast iron lighthouses answer admirably for positions at points remote from large centres of manufactures, and are gradually coming into use. Several lighthouses of this kind have been

erected at various places on the coasts of the United States. They require a lining of brick, the weight of which prevents oscillation or swaying, while its low conducting power of heat hinders the deposition of moisture on the well room of the stairs, which would otherwise be occasioned by the difference of temperature between the inside and outside of the tower. To further this latter object space is also left for a current of air to flow between the iron and brick. Another kind of iron lighthouse is the wrought iron pile lighthouse. The lower ends of the iron piles are fitted with large cast iron screws where the foundation is sand, and the piles are screwed to a firm bearing, or these ends are sharpened, and the piles are driven into the rock or hard ground by an ordinary pile driver, until they come to a firm bearing upon cast iron disks which bear upon shoulders forged on the piles. The number of piles depends upon the plan of the structure, which may be square, hexagonal, or octagonal. The foundation having been placed, the structure, which is of wood or boiler iron, firmly braced to the piles, and connected with them by iron castings, is easily built upon it. This kind of lighthouse was first built in England; the screw pile was patented about 1836 by Mitchell, and is called Mitchell's screw pile. It was introduced into the United States about 1845, and has since been used in the construction of many important lighthouses on the coast. Experience has shown that iron pile lighthouses are not suitable for foundations in water in climates where much ice is formed. The ice, moving in large fields, bends and sometimes breaks the piles, and, by forming upon the piles themselves, makes the bulk of the structure so large that the effect of the waves upon it is very much increased. On this account it is not likely that iron pile structures will be much used north of Chesapeake bay. But on the southern coasts they have been found particularly adapted to the necessities of the service, and about 80 of this class of structures, resting upon screw piles and iron disks, now exist in the United States. Their annual cost for repairs is very small, a yearly coat of paint being all that is needed to keep the exterior in good order. They are particularly suited for bays and sounds in the southern waters, where light vessels have been in use until the present time. As these vessels become in need of repairs, they are withdrawn, and a screw pile lighthouse is built upon the site, at a cost not much exceeding that of the repair of the vessel, but with an annual expense of maintenance less than one half of that of the vessel.—Lighthouse towers are generally surmounted by parapet walls, which vary in height from 8 to 7 feet, according to the order of the light. Upon the parapet wall is placed the lantern in which the illuminating apparatus is contained. The lantern is a glazed framework made of brass or iron, and varies in dimensions from 6 feet in diameter and 4 feet in height to 12 feet in diameter and 9 feet in height. It

is a regular polygon, and can be made of any number of sides, depending upon the various circumstances to be considered. It is surmounted by a dome constructed of copper or iron, which is generally lined with some other metal to prevent condensation of moisture. A ventilator is placed upon the top, from which the heated air escapes, and registers are inserted near the bottom of the lantern to enable the keeper to regulate the supply of fresh air at will. Upon the convenience and proper construction of the lantern the efficiency of the lighthouse in a great measure depends. II. *Method of Illumination.* The materials which have been used for the illumination of lighthouses are: 1, wood and coal; 2, candles; 3, oil; 4, gas. Wood and coal were the first fuels used for lights. They were first burned as beacon fires on headlands, and afterward, as the necessity of increased elevation was felt, the fire was placed at the top of a tower. It is not known that any other method of illumination for lighthouses was used until about 1760, when Smeaton commenced the use of wax candles in the Eddystone lighthouse. Another lighthouse built by him on Spurr Point about 1774 was arranged for illumination by coal, which fact shows that the use of wax candles had not become general at that date. Tallow candles were afterward used at the Eddystone. Some of the English and Scotch lights consumed coal as late as 1816, and several on the coasts of Sweden and Norway were illuminated with this material as late as 1846. The vast improvement made in lamps by the use of the Argand burner and glass chimney made a complete revolution in the lighthouse systems of the world. (See ARGAND LAMP.) The parabolic reflector with this burner was introduced into lighthouses gradually from 1785, when the first apparatus of this kind was erected in the Cordouan lighthouse. In the United States the first lighthouses were lighted with tallow candles, and solid-wicked lamps, suspended from the domes of the lanterns by iron chains. The lamps were in shape and in principle like the old-fashioned links. The Argand burners and reflectors were adopted in 1813, and were used until 1853, when the general introduction of the lens system commenced. Since the adoption of Argand lamps in lighthouses, oil has been used as the combustible. In Europe the vegetable oils have been generally used. These are olive, and rape seed or colza. Great Britain however uses sperm oil as well as colza, though the latter bids fair to supersede it. Various other oils, animal and vegetable, have been tried with more or less success, but hitherto none but the sperm among the animal oils, and the colza among the vegetable, have come up to the requirements of lighthouse illumination.—Attempts have been made to use gas in lighthouses. Difficulties have been found in getting the proper shape of flame for deviation by the illuminating apparatus; and the uncertainty of the supply where the gas is made at the lighthouse is another objection, and one so serious that a full

supply of oil has had to be kept at the station for fear of accidents to the gas apparatus. In a few cases gas has been introduced into lighthouses near towns supplied with it. These, however, have been small lighthouses, and the examples are from the nature of the case rare, and cannot be extended beyond harbor lights. In one case in the United States a lighthouse is lighted with natural gas. There is little doubt that oil will be eventually superseded by gas or the electric light, but in the present state of the gas manufacture it seems impossible to make a burner that will give the proper size and shape of flame for the large orders of lights. No metal but a very refractory one can bear the immense heat developed by 4 cylindrical concentric flames, the largest of which is 8½ inches in diameter; and the expense of making burners of such a metal would be very great. As an economical question it is doubtful whether gas should be substituted for sperm oil. The first cost of the gas apparatus for a large lighthouse is heavy, and the annual expense of repairs is also large. It is probable that the efficiency or brilliancy of the light would not be augmented by the change from oil to gas, as the lights fitted with Fresnel apparatus now show as far as the curvature of the earth will permit. In a lecture delivered March 9, 1860, before the royal institution, Prof. Faraday spoke of the light produced by electricity as being especially adapted for lighthouses on account of its intensity, while it occupied at its source no more space than a common candle. The voltaic battery, however, presented difficulties which rendered its use for this purpose impracticable, but from which the magneto-electric apparatus was found to be free. A large apparatus of this character, worked by a two-horse steam engine, had been employed for 6 months at the South Foreland lighthouse, which produced such an intensity of light that it was often seen from the opposite coast of France. Prof. Faraday anticipated that, if the expense of this mode of illumination did not prove too serious, it would be adopted in many situations where intense light is required. Experiments have been made upon coal oil with reference to its use in lighthouses, but it is not feasible to make the flame of this oil of the proper size and shape for deviation by the large lenses, in the present state of knowledge on the subject. The difficulty appears to be that the immense heat of so large a flame sets free a great amount of carbon which passes off unconsumed as smoke, and covers the apparatus and glass of the lantern with a thick coating of black. Until means can be devised for the consumption of this excess of carbon, coal oil cannot be used.—The illuminating apparatus is either catoptric by reflectors, or catadioptric by lenses. The latter method of illumination has been fully described in the article FRESNEL. In the catoptric method, which was universally used until within the last 10 years, the light from each lamp is so deviated by a reflector that it emerges from the lantern, a beam, or nearly a beam, parallel to

the horizon. The earliest known instance of a reflector being used for this purpose was in the Cordouan lighthouse, in the bay of Biscay. With the introduction of the Argand burner its use became more common. The reflectors at first were plaster moulds made of the proper form, upon the interior surface of which were fastened facets of plane silvered glass. They came into general use in Europe in the early part of the 19th century. The best form of reflector is the paraboloid of revolution with its axis horizontal. The reflector is made of copper, and its inner surface is covered with silver, and is highly polished. The flame of the lamp has its centre in the focus of the reflector, and the rays emerge from the surface of the reflector nearly parallel. They are not entirely parallel, because the surface is necessarily imperfect, and the source of light cannot be a mathematical point. The small divergence, instead of being a defect, is in reality a benefit, for without it the beam would always have a diameter equal to that of the edge of the reflector, and would be of little practical value. In fixed lights, the reflectors are fastened to circular iron frames, and are placed in horizontal tiers in the lantern. There is a lamp for each reflector, and it follows that the greater the number of lamps the more uniformly the light is distributed around the horizon. The reflectors vary in their sizes. The double ordinate at the lips is about 11 inches in the smallest, and 31 inches in the largest size. Some have been made larger, but they have never been in general use. In a revolving reflector light, the reflectors are generally arranged so that the axes of all of them on one face are parallel, and there are 2, 3, 4, or 5 faces, the number depending on the desired interval between the flashes. The frame upon which they are placed is made to revolve by a clockwork arrangement moved by a weight. It is evident that the flash produced by one of the faces will be brighter than the light of a fixed reflector light, because the eye will receive at once rays from several reflectors, while in the case of a fixed light it only receives them from one. This is the reason why revolving lights are always brighter than fixed lights. The lamps used with reflectors are what are commonly called fountain lamps. They are fitted with Argand burners, about $\frac{1}{2}$ inch in diameter. The introduction of the Fresnel or dioptric method of illumination of lighthouses has superseded the reflector system, so that reflectors are now only used as range lights, or on light vessels, or in lighthouses built with too little money to permit the purchase of a lens. The first cost of a lens of the first order is 4 times as great as that of 20 reflectors, which is the greatest number placed in a lighthouse. III. *Auxiliary Safeguards to Navigation.* These consist of light vessels, beacons, fog signals, and buoys. Light vessels are vessels moored to point out dangers or show the entrances of channels, turning points, &c., by exhibiting a light at night. They are strong, and built for riding easily at anchor, and are

well manned, to provide against accidents to which their exposed positions render them peculiarly liable. The lighting apparatus is contained in a lantern which at night is hoisted to the masthead. It consists of lamps and reflectors like those described above for lighthouses, except that they are smaller. The lamps are hung on gimbals, so that their positions may be affected as little as possible by the motion of the vessel. Some of the light vessels of the United States are in positions exposed to the full force of the Atlantic, and one moored off the Nantucket New South shoal is 22 miles from the nearest land. On account of the great expense of maintaining light vessels, and the little dependence that can be placed on them as signals when they are most needed, they are only placed near dangers which it is impossible to point out by lighthouses.—A beacon is a structure of stone, iron, or wood, placed upon the shore or upon a rock or shoal in the water to designate a danger. Beacons are built at points where lighthouses cannot be built, or which are not of sufficient importance to justify the constant expense of keeping up lighthouses or light vessels, but which nevertheless require to be pointed out.—A fog signal is an aid to navigation placed on board a light vessel or near a lighthouse to give warning to vessels in time of foggy or thick weather. Bells are the most common signals, and when placed on light vessels they are very efficient. When, however, they are placed near lighthouses, as the shore is generally between the bell and the vessel to be warned, the roar of the surf is likely to drown the noise of the bell, so that in such cases they are inefficient, and can only be heard when the vessel is close to the lighthouse, often too close to avoid the danger. Whistles have been experimented upon, but hitherto with little success. The noise is much more acute, and can be heard above the surf further than that of a bell; but the power required to sound the whistle can only be furnished by a steam engine, requiring fresh water and the services of an engineer. The former requisite it is impossible in most cases to furnish, and the latter requires more expense than would be justifiable except in the cases of very important lights. These are most generally the cases where fresh water in sufficient quantities cannot be obtained. Experiments have been made with Ericsson's hot-air engine, and it is not improbable that something feasible may be obtained from it.—Buoys are anchored in the water to mark rocks, shoals, and other dangers. They are of various kinds, such as nun, can, and spar buoys, &c. A nun buoy is in shape like two equal cones brought together at their bases; it is made like a barrel with staves and iron hoops, or, as is often the case in the United States, it is made of boiler iron. A can buoy is nearly conical in shape, and is moored at its vertex. A spar buoy is a spar anchored at one end. Buoys are painted of different colors to indicate upon which side they must be passed.

The colors are fixed by law of congress in the United States. Thus a red buoy must be left on the starboard hand by a vessel entering a harbor from sea, and a black buoy must be left on the port hand. A buoy with red and black horizontal stripes may be left on either hand. The side of a channel upon which a buoy is placed is sometimes indicated by the kind of buoy. Thus nun buoys may be placed on the starboard side of a channel, and can buoys on the port side. IV. *History and Statistics.* Little is known of the early history of lighthouses, but sea lights are mentioned by Homer in the *Odyssey*, and they are also referred to in the Greek poem of Hero and Leander. These must have been merely fires kindled upon headlands. The most noted lighthouse in the world for size and antiquity was the Pharos of Alexandria. This building was the frustum of a square pyramid surrounded by a large base, the precise dimensions of which are not known. It was commenced by the first Ptolemy, and was finished about 300 B. C. The style and workmanship are represented to have been superb, and the material was a white stone. The height was about 550 feet; and it is stated by Josephus, who is the most trustworthy writer on the subject, that the light, which was always kept burning on its top at night, was visible about 41 miles. It was probably destroyed by an earthquake, but the date of its destruction is not known. Enough is known, however, to make it certain that this tower existed for 1,600 years. The island upon which it was situated was named Pharos, and the structure took its name from its site. To this day the French word for lighthouse is *phare*, and the Italian and Spanish *faro*.—One of the most remarkable modern lighthouses is the tower of Cordouan, which was commenced in 1584 and finished in 1610 by Louis de Foix, a French architect and engineer, the construction having occupied 26 years. It is situated on a ledge of rocks in the mouth of the Garonne or Gironde, in the bay of Biscay. The ledge is about 8,000 feet long and 1,500 feet broad, and is bare at low water. It is surrounded by detached rocks, upon which, according to Belidor, who gives a detailed description of it, the sea breaks with terrific violence. There is but one place of access, which is a passage 300 feet wide where there are no rocks, and which leads to within 600 feet of the tower. The foundation is the frustum of a circular cone whose lower base is 185 feet in diameter, and is built solid of cut stone to a height of 16 feet, a space for a cellar and water cistern 20 feet square and 8 feet deep having been left in the centre. The upper base of the frustum is 125 feet in diameter. On the E. side is a stone staircase by which access to this upper base is gained. The tower springs from this level. A parapet wall about 11 feet thick at the top is built entirely around the upper base of the foundation to a height of 12 feet. Between this wall and the tower are the apartments of the keepers. The tower rises from

the base to a height of 115 feet, and is 50 feet in diameter at the base; it diminishes in diameter as it ascends. The apartments of the tower are highly ornamented, and were not intended for occupation by the keepers. There are 4 stories, all of different orders of architecture, and adorned with busts and statues of kings of France and heathen gods. The material is stone. The basement or lower story appears to have been intended as a store room; the 2d story is called the king's apartments; the 3d is a chapel, and the 4th consists of a dome supported by columns, a kind of lower lantern; above this was originally a lantern formed of a stone dome and 8 columns. The total height of the tower from its base to the upper point of the lantern dome was 146 feet, and from the rock 162 feet. In the upper lantern a fire of oak wood was kept burning at night for about 100 years, when, in 1717, the fire having weakened the stone supports by calcining them, the upper lantern was taken down and the light was kept up in the lower lantern. As it did not show well there, an iron lantern was erected in 1727 above this, in the place of the old stone lantern, and coal was used for fuel instead of wood. It is worthy of remark that the upper part of this lantern contained an inverted cone, the base of which was the base of the lantern dome. The surface of the cone was covered with tin plates, thus forming a rude reflector which utilized a part of the light, which without it would have been lost. This was in all probability the first attempt made in a lighthouse to deviate the rays of light so as to throw to the horizon those which would have been lost in the upper parts of the atmosphere. The Cordouan lighthouse is also notable from the fact that the first Fresnel lens manufactured was placed in it in 1823.—The Eddystone lighthouse is the most distinguished in the world, both on account of the difficulties attending its construction, and the fact that it is the type of all structures of the kind which have since been erected. The Eddystone rocks are in the English channel, about 14 miles S. S. W. from the port of Plymouth, and being in the fairway of all vessels coasting along the S. shore of England, the attention of the government was directed to them at an early day. They are a cluster of gneiss rocks about 600 feet long from N. to S., with detached rocks covering about the same distance from E. to W. The highest part of the rock upon which the lighthouse is placed is about 16 feet out of water at low water of spring tides. The first lighthouse erected upon them was commenced in 1696 and finished in 1699 by Henry Winstanley, an architect. The accounts of its construction are vague, but it is supposed to have had a solid circular and polygonal stone base 12 feet high and 24 feet in diameter, upon which was built a fantastic structure of wood which had the appearance of a pagoda. The height from the rock to the base of the lantern was about 75 feet. The lantern

was glazed. This building stood until Nov. 1703, when Mr. Winstanley went to the lighthouse with a party of workmen to make some repairs. On the 26th of the month a terrible storm arose, and not a remnant of the lighthouse nor a trace of its inmates was ever seen afterward. The fact that a lighthouse could be made to stand on the Eddystone having been demonstrated, soon after the destruction of Winstanley's building another was built by a person named Rudyerd. It was commenced in 1706 and finished in 1709. It was an exceedingly ingenious combination of wood and iron, and showed great advances in the art of engineering. The form was the frustum of a circular cone. It was built up nearly solid for a height of 27 feet above the rock, the filling consisting of courses of cut stone alternating with courses of squared timber. The outside casing was composed of 72 oak posts or uprights, the lower ends of which were fastened to the rock by heavy irons which were let into lewis holes. This is the first recorded application of the lewis for this use. The lantern was glazed. This building stood well with some repairs of the woodwork until Dec. 1755, when it was destroyed by fire. The fire commenced in the lantern in the early part of the night, and the keepers retreated from room to room until they reached the rock. Early in the morning they were brought to the shore, as the weather happened to be good enough to permit a boat to land on the rock. In 1756 Smeaton was selected to rebuild the Eddystone. He determined to use stone for the material, and the shape of the trunk of a large tree as his model. The stones of a course were to be joined by dovetailing, and the different courses were to be connected by stone dowels. The upper surface of the rock was to be cut in horizontal steps, so that every course would rest upon a horizontal bed. The general form of Smeaton's structure is the frustum of a cone, or more strictly that of a solid of revolution formed by revolving a vertical plane bounded on one side by a concave curve around a vertical axis. The elevation, or a vertical section of the tower, impresses the most unpractised eye with the idea of great strength. The diameter of the lowest partial course is 32 feet, and that of the first or lowest entire course is 26 feet. The diameter of the course under the coping is 15 feet, and the whole height of the masonry is 77 feet. The tower is surmounted by a parapet wall 6½ feet high and 8½ feet in internal diameter. The combinations to obtain the greatest strength in this tower by dovetailing, cramping, dowelling, and by the use of hydraulic mortar, have never been surpassed. The experiments made by Smeaton on hydraulic cements in connection with the construction of this work were particularly valuable, and are quoted to this day. The erection of the lighthouse was, on account of its position, the difficulty of access to its site, and the fact that Smeaton had determined to build it of stone,

attended with the greatest difficulties. The genius and energy of the engineer triumphed over all obstacles, and the work was finished in 1759. It has stood for 100 years, a monument of the skill of its designer and builder, and an example to all engineers.—Another noted lighthouse structure is the Bell Rock lighthouse off the E. coast of Scotland. This rock is situated in the German ocean, 11 miles from the Scottish coast, on the N. side of the frith of Forth, and nearly opposite that of Tay. It is about 427 feet long and 280 feet broad, but the vicinity is dangerous over an area of about 1,400 by 800 feet. The rock is a reddish sandstone, and the part upon which the lighthouse is built is 12 feet below high water of spring tides, the rise of these tides being 16 feet. The lighthouse is built principally of sandstone found on the mainland in the vicinity, the outer casing of the lowest 30 feet being of granite. It was commenced in 1807, and was finished late in 1810. The designers were Messrs. Rennie and Robert Stevenson, and the constructor was Mr. Robert Stevenson. The difficulties of the erection of this lighthouse were nearly as great as those encountered by Smeaton in his work, but the large size of the rock gave it an advantage, and Smeaton's experience was made useful by Stevenson in its construction. The form is similar to that of the Eddystone. The diameter of the bottom course is 42 feet, and that of the course just below the cornice 15 feet. The stone work is 102½ feet high, in which height is included that of a parapet wall, octagonal in plan, which surmounts the tower. This wall is 6 feet high, and its sides are 5½ feet long. Upon it the lantern is placed. The account of the erection of this lighthouse, written by Mr. Robert Stevenson, and published in 1824, is an exceedingly interesting work, and contains an accurate history of the Scottish lighthouses. It has been of the greatest assistance to engineers who have been engaged on similar works since its publication.—Another important lighthouse, notable on account of the difficulties of its construction, is the Skerryvore lighthouse off the W. coast of Scotland. The Skerryvore rocks are situated about 11 miles S. W. of the island of Tyree, and 50 miles from the mainland. They are in the track of large vessels bound from the Clyde and Mersey (Glasgow and Liverpool) around the north of Ireland, and many wrecks have taken place upon them which have never been reported. The necessity of a lighthouse to warn vessels off these rocks had long been apparent, and in 1814 authority was given to erect one. Nothing was done until 1834, when a survey was made. The result of this survey was the discovery of a solid gneiss rock 160 feet long and 70 feet wide, upon which it was determined to erect the lighthouse. Mr. Alan Stevenson, a son of the constructor of the Bell Rock lighthouse, succeeded his father as engineer of the commissioners of northern lights, and to him was committed the difficult task of the erection

of the Skerryvore lighthouse. The form chosen for the tower is a shaft surmounted by a belt and capital, upon which is the parapet wall. The shaft is a solid of revolution formed by revolving a rectangular hyperbola about its asymptote. The diameter of the lowest course is 43 feet, that of the top course 16 feet, and the whole height is 138 feet. The tower for a height of 26 feet is solid. Immediately above the solid part the walls are 9½ feet thick, and they gradually diminish from this thickness to 2 feet. The material is granite, and the tower is surmounted by a bronze lantern in which is placed a Fresnel lens of the first order, showing a revolving light. The work was commenced in 1839, and the light was first shown in Feb. 1844. An accurate and detailed account of the construction of the work has been written and published by Mr. Stevenson, which is valuable not only for the description of this particular work, but because it contains a dissertation on the Fresnel system of lighthouse illumination, written with great attention to detail, and entirely scientific, beside a succinct history of lighthouses. The work may be regarded as a text book on lighthouse construction and illumination, and is full of valuable information and excellent hints to persons interested in the subject.—A cast iron lighthouse for the Great Isaac's rocks, near Bermuda, was completed in 1856 by the Messrs. Grisels of London, by order of the English admiralty. The tower is 120 feet high from the base to the plane on which the lantern is to rest, and 150 feet to the top of the lantern. At the base the tower is 25 feet in diameter, and at the top 14 feet. One of the great peculiarities of the construction is that the 155 large cast iron plates of which it is composed are not placed horizontally round the tower, as heretofore in erections of a similar kind, but in what is technically called "break joints;" i. e., the plates, so to speak, are dovetailed and wedged the one into the other, in such a manner as to form a perfect column, and equal in strength in all its parts.—Other noted lighthouses have been erected upon the coasts of Europe, but those described are all whose constructions have been given in detail and published to the world. Some on the coasts of France are as bold in their execution and as difficult in their construction as any noticed above. But those already described are types of all others.—Many of the lighthouses in the United States are unsurpassed by any in the world, and are of exceedingly difficult construction. The most noted is that of Minot's Ledge off the coast of Massachusetts, now in course of construction. This rock is the outer one of a ledge lying off the town of Cohasset. It is situated about 8 miles E. S. E. of Boston light, and is a projecting point very dangerous to vessels coming into Boston from seaward. Should these vessels have a N. E. wind, and by any chance miss the entrance to the harbor, they would be almost certainly cast away on these rocks were there no signal placed there to warn them off. It is about 1½ miles from the nearest land, and at

low water the highest part of the rock (a circle about 25 feet in diameter) is bare. The rise of spring tides is not far from 12 feet, so that no part of the rock is ever uncovered more than a few minutes. The difficulties of erecting a lighthouse on this rock cannot be exaggerated. The attention of commercial men and mariners was drawn to the dangers of this point many years ago, and in 1847 an appropriation was made by congress for the construction of a lighthouse on the rock. It was determined to erect an iron pile structure, at the top of which was to be the keepers' dwelling, and this was to be surmounted by the lantern enclosing the illuminating apparatus. The plan of the work was an octagon, the side of which at the base was 9½ feet, the diameter of the circumscribing circle being 25 feet. Iron piles 10 inches in diameter where they leave the rock were inserted 5 feet into it, at each angle of the octagon and at its centre. These were firmly braced and tied together by wrought iron braces. At a height of 55 feet above the highest point of the rock the heads of the piles were firmly secured to a heavy casting. Above this casting the floor of the dwelling was placed. The structure was finished in the autumn of 1849, and stood until April, 1851, when it was carried away by one of the most terrific storms that has ever occurred on the Atlantic coast. All of the iron piles were twisted off at short distances above their feet. One cause of the destruction of this lighthouse is supposed to have been a hawser which was fastened to the top of the structure at one end, the other being anchored in the sea. The waves after leaving the lighthouse would strike the hawser, and the effect of the blow was transmitted to the pyramid with very great leverage, causing a tendency to oscillate. Another cause was the ice which froze to the piles, and thus increased the extent of surface exposed to the action of the sea. In 1852 congress appropriated money for rebuilding the lighthouse, and a design was originated by the lighthouse board and approved by the secretary of the treasury early in 1855. The design is for a granite tower in the shape of the frustum of a cone. The base is 80 feet in diameter, and the whole height of the stonework is 88 feet. The lower 40 feet are solid. The remainder of the tower is made up of keepers' apartments, store rooms, and the parapet, which encloses the pedestal of the lens apparatus. The stones of the courses are dovetailed in the securest manner, and the courses are fastened to each other by wrought galvanized iron dowels, 8 inches in diameter. The work was commenced early in the season of 1855, and an idea of the difficulties to be overcome may be formed from the fact that although every moment in which it was possible to work upon the rock was taken advantage of, it was not until the last part of the season of 1857 that any stones were laid, the whole of the intervening time having been taken up in levelling the foundation bed. In the season of 1857 four stones were laid, in

1858 six entire courses were laid, and in 1859 the whole of the solid portion of the structure and half of the remainder, making a total height of 60 feet, were placed. It is presumed that the lighthouse will be ready for illumination by the end of the season of 1860.—The early history of lighthouses in the United States is involved in obscurity. All built prior to 1789 were ceded to the federal government by the respective states near the time of the adoption of the federal constitution, and the records of the erection and maintenance of the lighthouses before that date are buried among the archives of the several states. It is known, however, that the ports of Portland, Portsmouth, and Newburyport, Cape Ann, Boston, Plymouth, Nantucket, Newport, New London, New York, the capes of the Delaware, the capes of the Chesapeake, the port of Charleston, and the mouth of the Savannah river were all lighted before 1789. The buildings were generally rough stone or wood towers surmounted by large iron lanterns. With one or two exceptions they have all been rebuilt. They were generally of small height, and the illuminating apparatus was of the rudest description. A new impulse was given to lighthouses in the United States about the year 1845, when a commission consisting of two officers of the navy was sent abroad to examine the lighthouse establishments of European governments. About the same time Mitchell's screw pile was introduced into the country, and the style of reflectors and lamps was much improved. The buildings too were more substantially erected, and more attention was paid to the principle that the light should be brought to the horizon, which when reflectors were first introduced was lost sight of almost entirely. About the year 1852 the general introduction of the lens or Fresnel system of lighthouse illumination was commenced, and all the lighthouses of the United States are now (1860) furnished with this apparatus. (See *FRESNEL*.) Under the lighthouse board the principle has been adopted of building all first class lighthouses of fire-proof materials. Although under this system the first cost of the structure is large, an insignificant outlay only is necessary for repairs. The same system obtains in the smaller lighthouses when the amount available for their erection will permit it, but in harbor and pierhead lights light wood or iron structures are erected, which can be rebuilt at a small cost in case of serious damage. On June 30, 1859, there were 491 light stations on the coasts of the United States, including the Atlantic, Pacific, gulf, and lake coasts, and the shores of the various bays, sounds, and rivers. There were 576 lights shown at these stations. Of the 491 light stations, 48 are light vessels which show 64 lights; the remainder, 443, are lighthouses which show 512 lights. The expenditures on account of the maintenance of the lighthouse establishment for the fiscal year ending June 30, 1859, were nearly as follows:

Lighthouses	\$594,088 99
Light vessels	211,910 14
Buoys and beacons, &c.	126,968 77
Total	\$932,967 90

The number of buoys and beacons in the waters of the United States is between 5,000 and 6,000. The buoys must be shifted, cleaned, and painted every season, and those which are in exposed positions are frequently carried away by heavy seas or ice. The cost of keeping these aids to navigation in an efficient state is no small item in the annual expense of the establishment.—In all governments except that of the United States, commerce is directly or indirectly made to pay for the expense of the lighthouse establishments. In Great Britain a tax is laid upon every vessel, domestic or foreign, that uses the particular light which is to be supported. In some countries a light due is levied, which is constant whether one or more lights have been used by the vessel. In others, as France for instance, a harbor due or tax is levied, with the proceeds of which the lights are kept up, but the necessary amount is appropriated from the public treasury. The tax is always a severe exaction and restriction upon commerce, and it is to be regretted that foreign governments do not in this instance follow the example of the United States, which supports its lighthouse establishment without any tax upon vessels, domestic or foreign. The foreign vessels reap the benefit of our policy, but do not return the favor to United States vessels. In Great Britain the lights are in charge of three corporations. Those of England are under the Trinity board; those of Scotland and the adjacent islands are under the commissioners of northern lights; and those of Ireland are under the Dublin ballast board. These corporations determine as to the erection or discontinuance of lights in their respective jurisdictions, have entire control of the *personnel*, fixtures, and expenditures of the establishment, and determine the tax to be laid upon vessels which pass or use the lights. The funds raised by this tax are devoted to the annual maintenance and improvement of the lights, though in the case of the Trinity board a part of them may be used for the maintenance of pensioners belonging to the board. In its original construction it is believed this board had nothing to do with the general lighthouse system of England. In France the lighthouse establishment is governed by a mixed board of officers of the *corps des ponts et chaussées*, naval officers, and scientific civilians, and is presided over by the minister of public works. The expense of the maintenance of the establishment is paid by the imperial government, but, as before stated, a tonnage tax is laid upon all vessels, the proceeds of which are expended in the construction and repair of piers, breakwaters, lighthouses, &c. In the other countries of Europe the lighthouse establishments are all connected with the governments, and are managed in various ways. In Russia, Sweden, Denmark, Belgium, and the states bordering upon the

Mediterranean, they are generally under the charge of the navy departments. In the United States the establishment is under the control of a board, the organization of which is given in the article *FRESNEL*. The secretary of the treasury is *ex officio* president of this board, and its decisions are in all cases subject to his control. The lighthouse establishment is therefore a branch of the treasury department, and its annual expenses are estimated for by that department. For the proper administration of the affairs of the establishment, the coasts of the United States are divided into 12 lighthouse districts. To each of these districts is assigned an inspector, who is detailed from the officers of army engineers and the navy. These inspectors have the control of the operations of the establishment in their respective districts (with the exception of the appointment of light keepers), and correspond directly with the lighthouse board. They are furnished with schooners in which they make quarterly inspections of the light stations in their districts, and which are also used for taking care of buoys. They are required to make annual reports of the condition of their districts, in which are embodied their recommendations of new lights, &c., for the action of the lighthouse board. The construction of new lighthouses and important repairs of old ones are carried on under the direction of officers of the two corps of army engineers, who are detailed for this service. The routine duties of the lighthouse board are carried on by two secretaries, one of whom is an officer of the navy, and the other an officer of one of the corps of army engineers. Meetings of the lighthouse board are held quarterly, and intermediate meetings are also held for the transaction of any business that may be brought before the board by the action of the treasury department. The meetings are held at Washington, where the office of the board is situated.

LIGHTNING, the illuminating flash produced by a discharge of atmospheric electricity, either between two clouds, or between a cloud and the earth, exhibited in various forms. That known as sheet or heat lightning, especially in summer evenings, when the air is moist, appears in frequent flashes around the edges of clouds. It is usually unaccompanied with the noise of thunder; and its brilliant displays are watched without fear of injury from the stroke, as this kind of lightning appears to have little tension. In another form the lightning is seen in the fierce tempest darting in zigzag lines across the dark clouds, dividing into one or more forks, and frequently striking toward the earth, and rarely from this to the sky. Moving between the clouds and the ground, its line is sharp and well defined; and though visible, according to Arago, not the millionth part of a second, the direction of its motion is distinctly perceived. Upon the surface of the earth it follows the best conductors, or sometimes chooses instead the path of least resistance, taking a

direct course rather than a tortuous one along good conductors. Bad conductors interposed in its way are violently shattered or thrown about, and men and beasts are instantaneously killed by the fatal stroke. The flash is accompanied with loud reports of thunder, which, commonly succeeding the lightning by a short interval of time, designate by the length of this interval the distance of the seat of the discharge from the observer, the sound reaching the ear at the rate of about 1,125 feet per second, while the flash may be considered as coming to the eye without perceptible expenditure of time. Still another form of lightning is occasionally witnessed in fiery balls or globes, which move through the atmosphere toward the earth, and are seen for several seconds.—Of the nature of lightning the ancients knew nothing. Its disastrous effects were associated rather with the terrific sound of the thunder than with the flash, and the ancient Greeks and Romans attributed them to the thunderbolt hurled by Jupiter to the earth. The Hebrews often represented them as direct exhibitions of divine wrath, and frequently in the Old Testament, as in Job xxvii. and xxviii., the thunder is spoken of as the voice of the Lord. Even the earlier electricians did not suspect the identity of lightning and electricity. The abbé Nollet in 1746 first drew attention to the similarity of effects exhibited by thunder clouds and the prime conductor of an electrical machine. Winkler next argued that the principle of the powers of each was identical. Franklin established the fact first by enumerating in a clear and methodical manner the various points of resemblance, and the similar effects produced by each, and finally by actually conducting the lightning to the earth in his well known experiment with the kite in Philadelphia. This was on June 15, 1752. Dalibard also in a garden at Marly, on May 10 of the same year, following the suggestions of Franklin, obtained electrical sparks from an iron rod 40 feet high, which he had erected for testing the presence of electricity in the atmosphere, and electric jars were actually charged from this source. Buffon on the 19th day of the same month obtained similar results at Montbar. These experiments were regarded with the highest interest by scientific men, and were repeated variously modified in different parts of Europe. Prof. Richman of St. Petersburg, July 26 (Aug. 6), 1753, while explaining to a companion the construction of an electrometer attached to his conductor, was struck and instantly killed by what appeared to be a ball of blue fire as large as a man's fist, that was seen to leap from the insulated conductor to his head, a space of about a foot. A red mark was left on his forehead, his shoe was burst open, and his clothing slightly singed. His companion was benumbed and rendered senseless, and the door case and door were torn apart by the shock. M. Romas, to whom the French academy of sciences awarded the merit of inventing the electrical kite more than a year before it was employed by Franklin, construct-

ed a kite 7 feet 5 inches high, and 8 feet in its greatest width, with a surface of 18 square feet. A copper wire was wrapped around the string to increase its conducting power, and this was made to terminate in an insulating silk cord, near which an iron tube was placed to receive the electricity. The kite being raised to a height of 550 feet on the approach of a storm, the iron conductor became so highly charged that electrical sparks were obtained, and shocks of great violence. As the storm increased, flashes of fire darted to the earth accompanied with explosions, and straws that happened to be on the ground were attracted alternately by the string and the ground, their movements being accompanied by electrical flashes and constant explosions. Such are the experiments by which the electrical nature of lightning was established, and the thunder proved to be the noise which accompanies the electrical discharge. This sound may be prolonged as it is reflected in echoes by the clouds; or, as suggested by Sir John Herschel, it may come in successive impulses to the ear, as brought from an instantaneous discharge that extends for miles along a line directed away from the observer. So the terrific sudden crash may be the result of a flash occurring all round the observer with no great difference of distance from him in the points of the discharge. Not only was the electrical condition of the atmosphere during thunder storms thus established, but in 1753 the abbé Mazéas, by means of a wire 870 feet long attached to a steeple at Maintenon, proved that electrical action is excited in clear, dry, and especially hot weather, at all hours between sunrise and sunset. From a multitude of observations made by Cavallo, Read, De Saussure, and others, it appears that the atmosphere is almost always positively electrified in relation to the surface of the earth, and the higher the stratum of air the more decidedly positive is its electrical condition. The source of atmospheric electricity is traced by Lavoisier, Laplace, Volta, and De Saussure to evaporation from the surface of the earth, the effect of which is to convey one kind of electricity upward with the vapor, leaving the other with the fluid. But, as shown by Pouillet in 1823, this effect does not take place unless the evaporation is accompanied with chemical decomposition, as when it occurs from saline mixtures, from the surface of heated iron, which becomes oxidized, and more especially when the vapor proceeds from the leaves of growing plants. Combustion also is a source of atmospheric electricity, as is seen upon a large scale in the constant flashes of lightning that sometimes play around the summits of volcanoes during their eruptions. The rushing of currents of wind past each other, or against opposing objects, also generates electricity by the friction it occasions. The descent of the rain drops develops negative electricity in the air, and the same effect is observed in the vicinity of waterfalls, the air for several hundred feet distant being filled with negative electrici-

ty. To this cause is probably to be attributed the highly excited condition of the atmosphere during thunder storms, and the frequent alternations then observed of positive and negative indications. However the electrical condition of the clouds is produced, the surface beneath assumes the opposite electrical state, the stratum of air between acting like the insulating glass plate between two metallic surfaces; and when at last the attraction between the two opposite electricities becomes too strong for the interposed medium to resist, they rush together, producing the disruptive discharge accompanied with the flash and report. With a good conductor passing from the cloud to the earth the electrical equilibrium would be silently restored, as a Leyden jar is quietly discharged by connecting its inner and outer surface with a wire pointed at each end. But if an imperfect conductor is interposed, the electricity seeking to follow this may produce the most violent effects, and these are exhibited at the points where the continuity of the conductor is imperfect or interrupted. This is well illustrated in the common experiment with the model of a house loosely put together and furnished with an interrupted rod, through which an electrical shock is conveyed. The effect is to throw the model into pieces; but when the same experiment is tried upon a complete rod, the discharge takes place without violent action. Sir W. Snow Harris also illustrates the effect of an interrupted conductor by scattering bits of gold leaf upon paper, and passing along them an electrical discharge, sufficient to burn the gold and blacken the paper. But it is observed in this experiment that only those bits are burned, and the portions of them only, which lie along the line of most perfect conduction or of least resistance; the paper too will be nowhere blackened except on this line. Similar phenomena are observed upon a large scale in almost every instance of a house being struck by lightning. The path of the electrical current is traced along the best conductors, and as the lightning passes from one to another the most destructive effects are observed in these breaks. Imperfect conductors lying near are shattered to pieces or scattered about, and the effects of intense heat are developed where the current is most obstructed. The animal system offering a good conductor, the lightning leaves more imperfect ones to pass by this on its course, and thus men and beasts are frequently struck when standing near projecting objects, as trees, that present themselves as convenient mediums for the re-establishment of the electrical equilibrium.—Franklin, having satisfied himself of the identity of lightning and electricity, was not long in drawing from his discovery practical results of immense importance in protecting buildings from the stroke of lightning; and he thus announced in his "Poor Richard's Almanac" for 1753 his invention of the lightning rod,* the description

* From a passage found among the fragments of Ctesias (*Phot. Bibliotheca*), it would seem that some knowledge

being nearly as complete and exact in all essential particulars as could now be given after the experience and trials of more than a century: "*How to Secure Houses, &c., from Lightning.*" It has pleased God, in his goodness to mankind, at length to discover to them the means of securing their habitations and other buildings from mischief by thunder and lightning. The method is this: Provide a small iron rod (it may be made of the rod iron used by the nailers), but of such a length that one end being 8 or 4 feet in the moist ground, the other may be 6 or 8 feet above the highest part of the building. To the upper end of the rod fasten about a foot of brass wire, the size of a common knitting needle, sharpened to a fine point; the rod may be secured to the house by a few small staples. If the house or barn be long, there may be a rod and point at each end and a middling wire along the ridge from one to the other. A house thus furnished will not be damaged by the lightning, it being attracted by the points, and passing through the metal into the ground without hurting anything. Vessels also having a sharp-pointed rod fixed on the top of their masts, with a wire from the foot of the rod reaching down round one of the shrouds to the water, will not be hurt by lightning." Various modifications in the construction of the rod have since been proposed, and copper has been advantageously substituted for iron, as in those planned by Sir W. Snow Harris for the use of the ships of the royal navy. These protectors are in bands of copper, overlapping each other so as to break joints, and are let in to the after side of each mast. They pass down to the keel, and are continued through this by copper bolts into the water; they also connect with copper bands laid under the deck beams and continued through the side of the ship. Harris also made conductors for buildings of copper pipes firmly screwed together, and furnished at top with a pointed extremity $1\frac{1}{2}$ feet long and $\frac{1}{4}$ inch in diameter. The tubes for a given amount of metal expose the greatest surface, and thus furnish the maximum capacity of conduction of the electrical current. Copper moreover conveys the current more freely than iron in the proportion of 12 to 2 $\frac{1}{2}$. This is an important feature, inasmuch as, having no measure of the power of the current that may strike the rod, we should provide one of sufficient size for any stroke. An iron wire may be entirely inefficient, and melt beneath the electrical current, or this may be divided and bound off to other more or less perfect conductors near the rod. It is this inefficiency or imperfect construction of rods in use that has led many to question the value of any metallic conductors, and even to imagine that they all serve to attract lightning, and thus increase the danger. Their office is that of conductors of the electrical current, as the bed of a river presents

itself for the flow of the aqueous current. Each may act as a safety valve to its respective current when this is impelled with unusual violence; and in case of obstruction to either disastrous consequences may ensue. Iron rods loosely jointed together, and perhaps rusty in the joints, furnish a bad conveyance for the electrical current; and if not continued down into moist ground, and there branching out, the passage of the electricity into the earth may not be so free as by other conductors in the building itself. Wrought iron rods are commonly used in the United States on account of their greater cheapness. They should be at least $\frac{1}{4}$ inch in diameter, and in as long pieces as is practicable. The joints that cannot be avoided should be very securely fitted, so that the two ends are brought into close contact, and touch each other for several inches in length. The branching terminations in the ground may very well be filled around with charcoal, which is a good conductor, and also protects the rod to some extent from rusting. The points at the top may be protected from rust by gold leaf, and the whole rod may be painted with black paint having lampblack for its chief ingredient. A good rod may be secured without danger to the building by wooden clamps with iron fastenings, or even with iron staples. Glass insulators are useless, for when wet by the rain they become conductors. It is recommended by some persons, that as the greatest number of thunder storms come from the N. W., the conductors should be placed on the side of the building exposed to their first approach. But it is particularly important that every prominent elevated point of a large building should be protected by its own rod, and it is well to connect all the rods together, and to have two or more stems running into the ground. It is very uncertain how large an area a rod of given height can protect. Different French electricians have variously rated it as a circular space of radius from one to three times the height of the rod above the highest point to which it is attached; but little confidence can be placed in these conclusions. The opposite electricities, the concurrence of which produces the discharge, are far from being uniformly distributed through the atmosphere, and their point of rushing together may not be in any way under the influence of a rod directed into the air in its vicinity. The position of the excited masses may be favorable for a lateral discharge, and such have been known to pass horizontally through the atmosphere long distances, and to strike with destructive violence objects lying in their path. And as evidence of the protecting influence of a single point not reaching to any considerable distance, a case is cited of the foremast of a ship being struck, causing serious damage to the vessel, when the mainmast was provided with a conductor. Hence the importance of points upon the rods along the salient parts of buildings they are designed to protect. By the great multiplication of conductors the accumulation of opposite

was possessed by the ancients, 400 years before the Christian era, of the effect of iron rods in averting the lightning. The writer in this passage makes mention of a fountain in India, from the bottom of which was obtained a kind of iron, which being set in the ground averted clouds, hail, and lightning.

electricities in quantities sufficient to produce destructive discharges is prevented; and thus it is that houses in cities are rarely struck, or vessels where many are lying together in the docks. So where large quantities of iron are stored or are kept in use, as on board steamboats and iron buildings, the electrical equilibrium is usually maintained by the silent influence of many conductors. Isolated houses are more commonly the objects of the lightning stroke; and it is observed that particular localities are subject to be repeatedly struck at different periods; other spots are singularly free from such visitations. The parts of buildings most exposed are the most prominent and elevated points, though the lowest, even the cellar, is by no means exempt from the first shock, when the discharge proceeds from the ground upward. Chimneys from which hot and rarefied air is ascending into the atmosphere, and barns stored with new hay, the vapors from which also produce warm ascending currents, are especially liable to be struck. These currents generating electricity disturb its equilibrium, and produce circumstances favorable for the disruptive discharge. By open doors and windows a similar effect may be produced, and hence the danger of placing one's self near them in thunder storms. It is prudent for persons in a building to avoid being near a chimney or the walls, or in close proximity to metallic bodies, along which the lightning may find the readiest path. The greatest safety would be found, as stated by Franklin, in lying in a hammock suspended by silken cords in the middle of a large apartment. Insulation by placing one's self upon feather beds, or any poor conductor, is also a protection, not however complete unless the head is covered by some non-conducting substance. A silk dress is thus but a slight protection, if the head is exposed near a wall or chimney, and the feet are placed near some other conducting body. Out of doors it is dangerous to take shelter under trees, or to stand near hay stacks, or even by rivulets of water, the effect of which is in some measure to disturb the electric equilibrium.—One of the most useful works for reference on this subject is the treatise of Sir W. Snow Harris "On the Nature of Thunder Storms, and on the Means of Protecting Buildings and Shipping against the Destructive Effects of Lightning" (London, 1848).

LIGNE, CHARLES JOSEPH, prince de, an Austrian general and French writer, son of Claude Lamoral II., viceroy of Sicily, and descended on his mother's side from Mary, queen of Scots, born in Brussels, May 29, 1735, died in Vienna, Dec. 13, 1814. He was a member of one of the most eminent princely houses of Europe, which is related to the Arenbergs, Chimmays, and other eminent families, and which was settled in Hainault as early as the 11th century. His father and grandfather had both been field marshals of Austria, and he entered his father's regiment as ensign in 1752. In 1756 he became a captain, and distinguished himself

during the 7 years' war. At the battle of Hochkirch in 1758, he displayed such bravery in capturing a difficult position as to obtain the rank of colonel. He was made major-general in 1765, and lieutenant-general in 1771. He was present in 1770 at the interview between Joseph II. and Frederic the Great, and gave a graphic description of it in his correspondence. During the Bavarian war of succession, he commanded the advance guard of Marshal Loudon. The peace which followed gave him leisure to repair the defects of his early education, and with this object he travelled in Switzerland, France, and Italy. His celebrity for bravery and the fascination of his manner, added to remarkable powers of conversation, brought him into intimate literary relations with Voltaire, Rousseau, La Harpe, and Frederic the Great. In 1779 he visited the French court at Versailles, and was treated with great distinction. In 1782 he was sent on diplomatic business to Russia, where Catharine II. loaded him with favors and gave him a large estate in the Crimea. In 1788 he was appointed general of artillery by Joseph II., and charged with a special mission to Prince Potemkin, then besieging Otchakov; and in the following year, at the head of an Austrian corps, he had an important share in the taking of Belgrade by Loudon. He lost favor at court in consequence of his son's participation in the rebellion of the Low Countries against Austria in 1790; and although he obtained the rank of field marshal by regular promotion in 1808, he was never restored to active service. The last years of his life were passed chiefly in literary pursuits. His property had been confiscated by the French, but he recovered part of it in 1818. He resided in Vienna during the congress, and said of it: "The congress does not advance, but it dances; when all its other amusements shall be exhausted, I will treat them to the spectacle of a field marshal's burial." His works are nearly all included in his *Mélanges militaires, littéraires et sentimentales* (82 vols. 12mo., 1795-1811), and in his *Œuvres posthumes* (6 vols. 8vo., Vienna and Dresden, 1817). The former series Mme. de Staël abridged in two interesting volumes entitled *Lettres et pensées* (Paris, 1809).—EUGÈNE LAMORAL, prince of Aublise and of Épinay, a Belgian statesman, grandson of the preceding, born in Brussels, Jan. 28, 1804. He was for many years Belgian ambassador in France and Italy, and has been president of the Belgian senate since 1852. He has been married three times. His eldest son, Prince Henry, married in 1851 Marguérite, Countess Talleyrand-Périgord.

LIGNITE. See BROWN COAL.

LIGNUM VITÆ. See GUALACUM.

LIGNY, a village of Belgium, near Charleroi, which has given its name to the battle fought there between Napoleon's army and the Prussians under Blücher, on June 16, 1815, two days before the battle of Waterloo, and almost simultaneously with the engagement on the neigh-

boring spot of Quatre Bras, in which the duke of Brunswick fell. A short time before the commencement of the action at Ligny, the duke of Wellington met Blücher there, and foretold the defeat which was speedily to follow. After a desperate resistance, the Prussians were driven with a heavy loss from their position at Ligny. In spite of his disastrous defeat, however, Blücher maintained his communication with the English and made good his retreat, and no beaten army ever rallied quicker. The French general Girard fell at Ligny.

LIGUORI, or LIGORIO, ALFONSO MARIA DE, a saint of the Roman Catholic church and founder of the congregation of the Most Holy Redeemer, born at Marianella, near Naples, Sept. 26, 1696, died in Nocera, Aug. 1, 1787. He belonged to a noble family, and was bred to the profession of the law, in which he attained the most flattering success; but having from childhood been remarkable for piety, he resolved in 1723 to embrace the priesthood, and devoted himself to the instruction and reform of the more ignorant and vicious classes of the population, particularly in country places. Struck with the importance of securing a body of ecclesiastics who should give themselves specially to this work, he founded at the hermitage of Santa Maria de la Scala in 1732 a congregation to which he gave the name of the Most Holy Redeemer. It met with opposition, but the energy and patience of Liguori overcame all obstacles, and procured its approval by the holy see. In 1762 Pope Clement XIII. raised Liguori to the see of Sant' Agata dei Goti, which he governed for 18 years, when at the age of 79, being deaf, almost blind, and afflicted with a painful malady, he resigned and retired to one of the houses of his congregation, where he ended his days. In theology he was a warm opponent of Jansenism and rigorism. In an age of pomp, luxury, general relaxation of morals, and growing infidelity, he was remarkable for his profound contempt for all exterior show, for the extreme austerity of his life, his apostolic zeal, and activity in reforming abuses. He was highly esteemed by the kings of Naples, the bishops and cardinals of his time, and the popes. The veneration of the people for him, especially in his old age, was unbounded. He was canonized by Gregory XVI., May 26, 1839. His statue has been placed in St. Peter's, and he is one of the patron saints of Naples, where he is highly honored. He left a number of theological and devotional works, which are much esteemed in the Roman Catholic church. The most celebrated are: *Theologia Moralis* (Naples, 1755); *Directorium Ordinandorum* (Venice, 1758); *Opera Dogmatica* (Venice, 1770); *Istoria di tutte l'eresie con loro confutazione* (3 vols. 8vo., Venice, 1773); *Istruzione pratica per i confessori* (8 vols. 12mo., Bassano, 1780); *Homo Apostolicus Instructus in sua Vocatione* (8 vols. 4to., Venice, 1782); *Le glorie di Maria* (2 vols. 8vo., Venice, 1784). His complete works, translated into French, were published in Paris in 80 vols.

8vo. (1834 *et seq.*). Many of his devotional works have been translated into English, and are frequently republished.

LIGURIA, in ancient geography, a district of northern Italy, which according to the divisions of Augustus was bounded N. by the Padus (Po), E. by the Macra (Magra), separating it from Etruria, S. by the Ligurian sea (gulf of Genoa), and W. by the Varus (Var) and the Maritime Alps, separating it from Transalpine Gaul. It thus embraced the whole Sardinian province of Genoa, the territory of Nice, and some adjoining parts, a mountainous country traversed by the Alps and Apennines, whose most important products were cattle and timber. The inhabitants, called Ligyes by the Greeks and Ligures by the Romans, were a strong, active, and warlike people of uncertain origin, some identifying them with the Celts, others with the Iberians, and still others with the Siculi. In early times they were wide-spread, occupying among others the southern coasts of Gaul, and are even mentioned by Hesiod as one of the 8 principal nations of the earth. Eratosthenes calls the whole west of the European continent Ligystice (Liguria). The Romans divided them into Transalpine and Cisalpine Ligurians, calling the inhabitants of the maritime range *Alpini* and those of the Apennines *Montani*. Their tribes on both sides of the Alps were numerous. Their country was first invaded by the Romans during the period which elapsed between the 1st and 2d Punic wars, but it was not till some years after the termination of the latter that the final and fierce struggle was commenced which terminated with their subjugation and the transplantation of some of their tribes to Samnium. Among the principal towns of Liguria under the Romans were: Genua (Genoa), Nicæa (Nice), Polentia (Pollenza), Asta (Asti), and Dertona (Tortona). (For the Ligurian Republic, see GENOA.)

LILAC (Persian, a flower), a flowering shrub of the genus *syringa*. Its generic name suggests the idea of a pipe; and from its wood the tubes of the finest Turkish pipes are said to be made. It was called the pipe tree by the old herbalists in 1597, although this name belonged to the *philadelphus coronarius*, a native of the south of Europe, and known in our gardens as the mock orange or common syringa bush. There are several species of lilac, of which the common lilac (*S. vulgaris*, Linn.) and the white-flowered variety (*S. v. alba*), with the Persian lilac (*S. Persica*), are best known. Several seedling sorts have been produced by the gardeners, mostly inferior to the older kinds, of which Loudon gives a list of the blue, the purple, the white, the larger white, the double white, the red, and the large red-flowered. The Persian lilac is more of a shrub-like character, with small, bending, flexile branches, and narrow, lanceolate, entire leaves; and varieties of it with white flowers or else with cut leaves, some of which are almost pinnatifid, and others with hoary sage-like leaves, are spoken of by Loudon.

The beauty of the common lilac is best seen when the plant is cultivated as a tree by removing from its base the numerous suckers as they appear, and preserving a clear, straight trunk. When so treated it will grow 20 feet high or more, and in a good soil may be trained into a handsome tree of fine foliage, particularly when in full blossom. The duration of the lilac is greatest when it grows in a poor soil; its exact period of life cannot be accurately determined, but it may be considered as short-lived. An abundance of seed vessels may be seen on our garden specimens, but they are uniformly deficient in seeds. To procure seeds that will vegetate, it is recommended to destroy every sucker which springs from the roots, and to thin out the bunches of flowers. To secure decidedly new varieties from seed sowing, previous hybridization must be resorted to. The lilac, though originally supposed to have been derived from Persia, has been found indigenous to parts of Austria. It was first introduced into the European gardens from Constantinople toward the end of the 16th century. It has been used for garden hedges. Though perfectly hardy, it has also been treated as a greenhouse plant, retarding its usual period of development, and causing it to produce flowers at Christmas or on New Year's day.

LILBURNE, JOHN, an English republican agitator, born in Thickney Puncharden, Durham, in 1618, died in 1657. He was apprenticed at 12 years of age to a clothier in London, from whom as well as from his father he imbibed opinions in opposition to the existing hierarchy, which as he advanced in years he announced with singular intrepidity. So thoroughly was he imbued with the revolutionary spirit of the time, that in 1636 he went to Holland for the purpose of getting Dr. Bastwick's pamphlet against the bishops printed; and he subsequently privately circulated this publication, with others of a similar character, in England. Having been betrayed by an associate, he was arraigned before the court of the star chamber, and upon refusing to take the oath *ex officio*, or to answer interrogatories, was condemned, in Feb. 1637, to receive 500 lashes, to be pilloried and confined in the Fleet prison till he conformed to the rules of the court, and to pay a fine of £500 and give security for his good behavior. His fearless bravery on this occasion when confronted with his judges gained him the name of "Free-born John." Four years later the house of commons declared the punishment illegal, barbarous, and tyrannical; and as a reparation for his sufferings and losses during his imprisonment, he subsequently received from parliament £3,000 out of certain sequestered estates. Upon the establishment of a parliamentary army he enrolled himself as a volunteer, and fought at Edgehill and Brentford. At the latter place he was taken prisoner, and would have been executed as a rebel had not Essex, the parliamentary general, threatened the severest retaliation on royalist

prisoners. Disliking the Presbyterian tendencies of Essex, he obtained a commission as major of foot under the earl of Manchester, and subsequently, as lieutenant-colonel of dragoons in Manchester's own regiment, fought with great gallantry at Marston Moor. His sympathy for the Independents caused him to assume a hostile attitude toward the Presbyterian leaders; and for his intemperate language and not less intemperate publications against Prynne, Lenthall, and others, he was committed to Newgate on a charge of seditious practices. On this occasion Marten interfered in his behalf, observing, in defence of the factions course in which Lilburne persisted, "that if none were living but himself, John would be against Lilburne and Lilburne against John." He took an active part in organizing the "Levellers," and his pamphlets, produced in abundance, and appealing to the fanaticism of the soldiery, were a leading cause of the disaffection which prevailed in the army in 1648-'9. He did not scruple to accuse Cromwell and Ireton of a design to usurp the sovereignty; and for sending to a numerous assemblage at Winchester house a pamphlet entitled "England's New China," he was in March, 1649, committed by order of parliament to close custody in the tower, whence his political pamphlets issued without cessation. Various attempts were made to conciliate him; but with a man like Lilburne, "who possessed none of the qualifications for a popular leader but those of reckless vanity and indomitable courage," they proved futile. He was tried in October by a common jury, a special commission of members of parliament being appointed to determine his sentence, and was acquitted, to the almost frantic delight of the populace, who celebrated the event by bonfires all over London. A medal commemorating the trial was subsequently struck, having the following inscription: "John Lilburne saved by the power of the Lord, and the integrity of the jury, who are judges of law as well as of fact." He soon after retired to Holland, but returned to England in 1653, and was again arrested, tried, and acquitted. Finally this turbulent agitator, reduced to quiescence by the power of Cromwell, settled in Eltham, Kent, and joining the Quakers preached the doctrines of that faith until his death. An account of his trial, entitled "Truth's Victory over Tyrants," was published in 1649 (4to., London).

LILLE, or LISLE, a fortified city of France, capital of the department of Nord, formerly of French Flanders, 15 m. from the Belgian frontier, traversed by the river Deule and connected by a canal with the sea, and communicating by railway with Dunkirk, Calais, Paris, Brussels, and the principal cities of Europe; distance S. E. from Calais 65 m., N. N. E. from Paris 171 m., and W. by S. from Brussels 83 m.; pop. of the arrondissement of Lille in 1856, 404,279, and of the city, 71,286. The fortifications of Lille are considered to be Vauban's master work, and the city is one of the

most important of France, both in a military and industrial point of view. It is entered by 7 gates (one of which has a triumphal arch in honor of Louis XIV.), and contains over 80 public squares and as many bridges. The town hall dates from the time of John the Fearless, and was inhabited by Charles V. One division of this building is devoted to a school of art, containing in its collection of drawings by old masters 86 by Raphael and nearly 200 by Michel Angelo. Lille rivals English manufacturing towns in the spinning of cotton; there are over 80 establishments for the purpose in active operation. The chief manufacture is that of flax, which is cultivated extensively in the vicinity. The manufacture of Lille thread employs 2,000 persons, and the value of its annual produce is estimated at nearly \$3,000,000. Much linen is also woven here, but the manufacture of tulles and cotton lace has fallen off. Beet root sugar is manufactured to the annual extent of \$1,500,000, and the produce of brandy is about \$1,000,000. There are about 100 windmills in the city and 800 in the arrondissement (one of the communes being consequently called *Moulins*), used for grinding rape seed and other oleaginous grains for oil; the annual value of their products averages \$3,000,000. There are also extensive manufactories of smalt and salt at Lille, beside tanneries, dyeing establishments, and tulip gardens almost as renowned as those of Haarlem. The total value of articles manufactured in the arrondissement is annually about \$40,000,000, and the number of persons employed between 60,000 and 70,000. Fairs are held annually in February and December.—Part of the site on which the city now stands is said to have been anciently occupied by a castle built by Julius Cæsar. The first foundation of the city was laid in the 7th century, and it was enlarged and fortified in the course of the 11th. Henry III. of Germany seized it in 1053, and Philip Augustus of France in 1213. Destroyed by the latter on account of the revolt of the citizens, Lille was rebuilt by the countess Jeanne. In 1296 it was conquered by King Philip the Fair. Afterward it alternately gave its allegiance to France and the counts of Flanders until the end of the 14th century, when it passed into the possession of the house of Burgundy. About the close of the 15th century it passed into that of Austria, and in the next century of Spain, but Louis XIV. reconquered it in 1667, and made it the capital of French Flanders. In 1708 Lille was taken by Prince Eugene and the duke of Marlborough, notwithstanding the heroic defence of Marshal Boufflers. It was restored to France by the peace of Utrecht in 1713. Another memorable siege took place in 1792, when the Austrians, after a heavy bombardment, which destroyed many houses, were repulsed with great loss by the citizens.

LILLO, GEORGE, an English dramatist, born in London in 1693, died there in 1739. He had been brought up a jeweller, and even after

attaining literary celebrity still pursued his business. His first play, "*Silvia*," appeared in 1731, and met with little success; but his tragedy of "*George Barnwell*," which he produced in the same year, was acted at Drury Lane for 20 consecutive nights, and so fascinated Queen Caroline that she requested to be permitted to peruse the manuscript of it. In 1736 "*Fatal Curiosity*," generally considered his best tragedy, was introduced at the Haymarket theatre, and was at first coldly received; but owing to the exertions of Henry Fielding it subsequently became more popular. Harris, in his "*Philological Inquiries*," compares this play, for skilful construction and development of plot, to the "*Edipus Tyrannus*" of Sophocles. The dramatic works of Lillo, with a memoir of his life, were published in London in 1755, in 2 vols. 8vo.

LILLY, JOHN, the Euphuist, an English dramatic and miscellaneous author, born in Kent about 1553, died about 1600. He became a student in Magdalen college, Oxford, in 1569, neglected the study of logic and philosophy for poetry, received the degree of master in 1575, and was at that time a noted university wit. He soon after went to London, was reputed a rare wit and poet at the court of Elizabeth, and published his "*Euphues, the Anatomy of Wit*" (1580), followed by "*Euphues and his England*" (1581), the elaborate, fanciful, and dainty style of which became the model of court conversation. (See *EUPHUISM*.) He enjoyed success also as a dramatic poet, producing 8 plays, most of which were acted before the queen. He was engaged in the Marprelate controversy, and wrote "*Pap with a Hatchet*" (1589), a once famous pamphlet against the Martinists. A few modern critics, as Malone, Hazlitt, and Charles Lamb, have been enthusiastic admirers of his best pieces, as "*Endymion*" and the song on Cupid and Campaspe. His dramatic works, with a life and notes by F. W. Fairholt, were published in 1858 (2 vols., London).

LILLY, WILLIAM, an English astrologer, born in Diseworth, near Derby, May 1, 1602, died June 9, 1681. The son of a yeoman, he attended school from his 11th to his 18th year, and made considerable progress in the classics. In 1620 he went to London, his father being then in Leicester gaol for debt, and accepted a situation as footboy. In 1626 his master settled on him £20 a year, and employed him to keep his accounts as head of the salters' company. In the following year, on the death of his master, he married the widow, with whom he received £1,000, and lived happily till her death in 1633. By a second marriage in 1634 he augmented his fortune by £500. "She was of the nature of Mars," and he lived unhappily with her. He began the study of astrology in 1632 under a Welsh clergyman named Evans. He soon practised horary astrology with eminent success, instructed many persons in the art, and gave much attention to mundane astrology. In 1642 and 1643 he carefully noticed all the prin-

cipal actions between the king and parliament, trying to discover their relation to the configurations of the heavenly bodies. In 1644 he produced the first number of his almanac, *Merlinus Anglicus Junior*, which contained remarkable prognostications, was purchased with avidity, and was continued for many years. He was consulted both by the royalists and parliamentarians in the civil war. In 1647 he indicated a safe place for the concealment of the royal person, but complained that the king neglected his advice and was accordingly ruined. In 1651 he published "Monarchy or no Monarchy," containing several hieroglyphical figures, two of which were subsequently declared to have had reference to the plague and the great fire in London, which occurred respectively in 1665 and 1666. He was consequently summoned in 1666 before a committee of the house of commons. He afterward practised medicine in connection with his astrological science, till he was enfeebled by age. He published an autobiography (London, 1715), an "Introduction to Astrology" (new edition, with emendations and additions by Zadkiel, London, 1852), and other works.

LILY, a common name applied to many sorts of plants. The word probably has some oriental origin, though some trace it to the Celtic *li*, which signifies whiteness or shining, both which qualities may be attributed to species of the lily family. The lily belongs to the natural order of the *liliaceæ* or lilyworts, which comprises herbaceous plants, shrubs, and even trees, with bulbs, tubers, or rootstocks, and fibrous roots. They are endogenous, with a naked perianth and fleshy albuminous seeds. Their leaves are almost always narrow, with parallel veins; the flowers are of all grades from small and green-colored to those which are large and showy; they are succeeded by succulent, or else dry and capsular, three-celled seed vessels. The lily is best known among us, however, by those garden and field flowers to which the trivial name is applied, some of which are plants belonging to other natural orders. The tulip with its associates, of which the dog's-tooth violet (*erythronium*) and the fritillary (*fritillaria*) may be mentioned, are lilies, and belong to a section in which the true lily of the genus *lilium* is included. The day lilies (*hemerocallis*) and blue African lily (*agapanthus*) represent another section of liliaceous plants; the like may be said of the aloe, the garlic, onion, asphodel, asparagus, and many arborescent forms of tropical vegetation.—The lilies of the genus *lilium* are all superb garden plants. Of these, the white lily (*L. candidum*, Linn.) is a native of the Levant, but has been cultivated for centuries. From this long cultivation three varieties have sprung, viz., the purple blotched, the striped or yellow-edged-leaved, and the double. The long-flowered lily (*L. longiflorum*, Thunberg) comes from China, and is distinguished by its dwarfer stature, and larger, pure white, long-tubed blossoms, which expand later in the season.

The beauty of the Japan lily (*L. Japonicum*) is fully equal to that of the white lily; although the flowers have not the same fragrance, yet they fully make up for its absence in their purer white and large trumpet-shaped blossoms, elevated upon a taller stem, and standing out from a slightly curved and delicate footstalk. In pot culture it makes a much more imposing appearance than does the white lily. Its culture is easy, and it is a hardy desirable kind for the flower border. The martagon lilies are sometimes called the Turks' cap, from the circumstance of their petals being reflexed or turned backward so as to resemble a turban; they are generally smaller flowered sorts, and each flower spreads outward from the main stem so as to form a sort of umbel. The scarlet martagon (*L. Chalcedonicum*) covers the plains of Syria with its rich glowing flowers. A small, beautiful, delicate-leaved, and vermilion-colored species is the *L. tenuifolium* (Fischer) from Siberia. The tiger lily (*L. tigrinum*, B. M.) is a well known, showy, red and coarse flowered garden kind. The orange lily (*L. bulbiferum*, Linn.) is seen in our gardens in a dwarf earlier variety, succeeded by a taller and more slender variety, with coarse but pleasing orange-colored blossoms. There are also some other striking varieties of this species, one having party-colored foliage, another with double flowers, another with smaller flowers; the bulbils on the stalks are not constant, but their presence seems to depend on peculiarities of treatment; the variety known as the *umbellatum* of the "Botanical Magazine" (plate 1018) is very superb, and has been known to produce more than 60 flowers from a single root. Some exceedingly beautiful lilies have been raised by impregnating the flowers of *L. lancifolium* (Siebold) and its varieties with other and distinct species. These likewise are hardy, and make admirable plants for the border, blooming as late as September. By cultivating the roots in large pots the plants will grow larger with proportionally larger blossoms, and are very well adapted for the ornamenting of the greenhouse in summer. The giant lily (*L. giganteum*, Hooker) was discovered in the Himalaya at an elevation of 10,000 feet. It is a very singular plant, so stout and vigorous as to seemingly deny any alliance with its dwarfer co-species. Its bulb is large and green; its foliage consists of a cluster of large heart-shaped leaves, each leaf almost a foot broad and two feet long, looking like those of the *Funkia*; its flower stem is from 10 to 12 feet long, bearing 15 or 20 pure white blossoms of great fragrance. Its cultivation is easy, the main bulb, after flowering, making an abundance of offsets. Should it prove hardy, it would soon become a universal favorite in gardens, and a conspicuous associate with the Adam's needle (*yucca filamentosa*).—The North American lilies are very showy plants. In the Carolinas we have Oatesby's lily (*L. Oatesbii*, Walter), a conspicuous red flower, whose petals taper into a claw at their base, where the color is

yellow variegated with dark spots. Its natural habit of growth is around ponds in the flat pine barrens. The red orange lily (*L. Philadelphicum*, Linn.) is one of the most charming of our midsummer blossoms, found rather plentifully in open copses and among bushes in the pasture lands of New England. The wild yellow lily (*L. Canadense*, Linn.) is a conspicuous plant, growing with a slender stem from 2 to 5 feet high, and bearing numerous, rather small, bright yellow flowers, whose petals are spreading-recurved; it occurs in moist lands. The superb lily, or American Turks' cap (*L. superbum*, Linn.), is similar to this in many respects, and by some considered identical with it, but it is clearly distinct. The leaves of the superb lily are coarser, stronger, and more numerous; the flowers are conspicuously large, of a fine orange red and pale yellow at their base, with distinct spots of black; these spots, when occurring on the orange red, are surrounded by an areola; each petal is very much recurved and involute on its edges, while the contour of the entire plant marks it at once, when seen side by side, as the more beautiful and deservedly the favorite. There seems however to be a variety seen at the South by Michaux to which he gave the name of *L. Carolinianum*; but Elliott considers that there is some obscurity in it as a species, though its blossoming is later than that of the superb lily there by at least two months.—The true lilies are all easy of propagation from their seeds or from the division of their roots. They love a rich, moist soil, and are ornamental in the garden at very different periods of the season, some blossoming very early and others more tardily. They are of little practical utility to man, although we are informed that some are used as articles of food. The Siberians eat the bulbs of the *L. bulbiferum*; the Japanese, according to Kämpfer, eat those of the *L. tigrinum*; and the bulbs of the *L. pomponium* are eaten by the inhabitants of Kamtschatka, where they are even cultivated as potatoes are elsewhere. In trade, among florists and amateur gardeners, the bulbs of rare species and varieties realize large sums, until their rapid multiplication creates a greater supply than demand under such prices. Many years ago the American superb lily was extensively cultivated at Ghent for the trade; and in this country attention is directed to the finer sorts of Japan lilies for the same purpose.—Of other genera, which bear the name of lily, may be mentioned the water lily (*Nymphaea odorata*, Aiton). (See WATER LILY.) The lily of the valley (*Convallaria majalis*, Linn.) has been considered of European origin; but according to Prof. Gray it occurs on the high Alleghanies of Virginia and southward. The lilies of Scripture are conjectured to be the *amaryllis lutea*, or golden lily, and the *lilium Chalcodonium*, with scarlet blossoms, both natives of Syria. Many other species of *amaryllis* bear the name of lilies, and resemble them in general character.—The day lilies (*hemerocallis*, Lindley) are ornamental

herbaceous plants, of which the golden lily (*hemerocallis flava*) is the best for the garden on account of its graceful foliage and elegant blossoms. The orange or tawny lily was once esteemed, but is now quite discarded, and to be seen only in the rudest attempts at floriculture. In some parts of Essex co., Mass., it is becoming naturalized on the borders of fields and by the sides of the roads, insinuating its coarse fibrous roots between the loose stones of walls and rubbish. There is a form of it with more regularly equitant leaves and larger semi-double flowers, more showy and conspicuous (*H. disticha*), occasionally seen in collections of rare hardy plants. The liability of their roots to run under ground and to throw up numerous suckers renders them of too easy propagation, and without extra care they are apt to prove weedy and troublesome. The white Japan and the blue day lilies, though at one time considered as belonging to the same genus, have been separated from it, and are now known as *Funkia Japonica* and *F. carulea* (Willd.). The former of these possesses a delightful fragrance, and is a universal favorite, though much inclined to spread unduly in the flower border. A variety of equal beauty and fragrance, but of a better habit, more compact and less straggling, has been raised from seed, near Boston. The white Japan day lily grows remarkably well in pots, and is valuable on this account. The blue or *H. carulea* has leaves of a coarser texture, of a darker green hue and less elliptical in their outline, a longer and more slender and elastic peduncle, and smaller, campanulate flowers, which hang suspended one above the other. Abundant supply of water at the period of blossoming greatly promotes the size and beauty of the flowers. From characters thus marked and distinct Mr. Salisbury has erected it into a new genus, which he calls *Saussurea*. Other species, *F. Sieboldii*, *alata*, and *variegata*, the latter with leaves edged with white, are said to be very showy. These day lilies are easily propagated by division of the roots. The well known blue African day lily (*agapanthus umbellatus*, Willd.) is an admirable plant for vases, such as are used to decorate gardens and balconies; its tall straight peduncle is crowned with conspicuous, delicate, and faintly striped blue and light blue blossoms, while its long and large deep green leaves hang elegantly on each side at its base. Several hardy bulbous flowers from the Cape of Good Hope belong to the same group of day lilies, and are to be found in ordinary greenhouse collections, such as *tritoma*, *Tulbaghia*, *Blandfordia*, and *Veltheimia*. According to Lindley, the day lilies differ from the type of true lilies in nothing except their calyx and corolla being so joined to each other as to form a tube of conspicuous length, and in their want of bulbs in many instances.

LILY, WILLIAM, an English grammarian, born at Odiham, Hampshire, about 1466, died in London in Feb. 1523. He was educated at Oxford, spent 5 years at Rhodes studying Greek,

in 1509 established a classical school in London, and is said to have been the first Englishman that ever taught Greek in that country. When Dr. Colet founded St. Paul's school in 1510, he appointed Lily its first master, and he held this office for 12 years. He died of the plague. The most important of his works is *Brevissima Institutio, seu Ratio Grammatices Cognoscenda* (4to., London, 1518), a book which, under the title of "Lily's Grammar," has probably passed through more editions than any other similar work. Dean Colet was the author of the English rudiments, Erasmus of the greater part of the Latin syntax, and Lily of the rest; and Cardinal Wolsey wrote the preface to the second edition. Erasmus styles Lily "no ordinary scholar in classical literature, and a master in the art of tuition."

LILYBÆUM. See MARSALA.

LIMA, a township of Livingston co., N. Y., on Honeye creek; pop. in 1855, 2,670. It contains 6 churches; the Genesee Wesleyan seminary, founded in 1880 by the Genesee conference of the M. E. church, opened for pupils in 1882, and now occupying a brick building erected in 1842 at a cost of \$24,000; and Genesee college, founded in 1849 under the general supervision of the Genesee and E. Genesee conferences of the M. E. church.

LIMA, the capital of Peru, situated on the banks of the Rimac, in lat. 12° 2' S., long. 77° 8' W., distant 6 m. from Callao, its seaport on the Pacific; pop. about 100,000, of whom $\frac{1}{4}$ are whites, $\frac{1}{4}$ negroes, and the rest Indians and mixed races. The city stands on an extensive plain which rises gradually from the ocean. Viewed from Callao, it makes a splendid appearance, with its many spires and domes glittering in the sun. The Rimac flows through the city, and is crossed by a beautiful stone bridge of 6 arches, 580 feet in length, built in 1618. This bridge connects the city proper with the suburb of San Lazaro, where there are two agreeable *alamedas* or public walks, consisting of avenues formed by double rows of trees. The city is surrounded by brick walls about 9 feet thick at the top and from 18 to 25 feet high. It is two miles in length and nearly as much in breadth, and the circuit of the walls is about 9 miles. The streets are 33 feet wide, and cross each other at right angles, dividing the city into about 200 squares measuring 886 feet each way. The houses are low and irregularly built of adobe, with partition walls of cane covered with plaster, and with roofs of cane covered with mats, which are preferred to more solid materials on account of the frequency of earthquakes and the extreme rarity of rain. The houses for the most part have no windows toward the street, the smaller ones having only a door with a glass lantern hanging over it. Of the larger houses nothing is seen but great folding doors opening into the street, which lead to the *patio* or courtyard, surrounded by walls often painted in fresco; and facing the street door is the principal reception room. Through

the centre of the streets, running parallel with the river, flow small streams used as open drains, and along their margins crowds of turkey buzzards act as scavengers. In the centre of the city is the *plaza mayor* or great square, each side of which measures 510 feet. On the E. side stands the cathedral, a massive stone structure 320 feet long by 180 wide, with a façade painted red and yellow, and with three green doors and lath and plaster towers at each angle. The body of Pizarro lies beneath the grand altar. The palace of the archbishops, on the same side of the square, is now used as a senate house. The palace of the Spanish viceroys, on the N. side, is a mean-looking edifice, with its basement occupied by small shops; it is now appropriated to the courts of justice and other government offices. On the W. side of the square is the city hall, a Chinese-looking building, the gaol, and other offices. The rest of the square is fronted by private houses, with arcades filled with shops beneath, and balconies concealed by old Moorish-looking trellised jalousies on the upper stories. In the centre of the square is a handsome stone fountain, constructed in 1658, and surmounted by a bronze statue of Fame; it is supplied with water from the Rimac. Beside the *plaza mayor* there are upward of 80 open squares in the city. There are two foundling asylums and 11 public hospitals, one of which has 600 beds. The city contains 57 churches, 16 nunneries, and 25 chapels, many of which are extremely rich in images of gold decorated with jewels. The church of the Dominican convent is 300 feet long by 80 broad, and has a steeple 180 feet high, the loftiest in Lima. The convent is said to have had under the Spanish rule a revenue of \$80,000 a year. The largest monastic establishment is the convent of St. Francis, founded in 1586; it covers two squares near the banks of the Rimac, and has magnificent cloisters. Lima has a university founded in 1571, once the foremost seat of learning in Spanish America, but now nearly deserted. There are numerous schools for primary instruction, which are said to be well conducted, and two high schools, each of which has about 350 pupils. There are also 8 Latin schools and 4 colleges, one of which is for theology, another for law, and another for medicine. The city contains two theatres, an amphitheatre for cock fighting, and another for bull fights capable of accommodating 12,000 spectators. The manufactures consist principally of gold lace and fringes, glass, cotton cloth, cigars, chocolate, and paper, and are of very limited extent. The climate of Lima is delightfully mild and equable. The temperature ranges only from 60° to 80°, being never under the former and seldom rising above the latter; the ordinary daily range is from 3° to 4°. Rain is extremely rare, and thunder and lightning unknown. The vicinity of the city is exceedingly pleasant, and produces in abundance maize, barley, beans, vegetables, sugar, rice, tobacco, grapes, olives, melons, and other fruits. But all

these advantages are outweighed by the exposure of the city to frequent earthquakes. Slight shocks occur very often, and are little regarded; but since its foundation the city has experienced upward of 12 tremendous earthquakes which were terribly destructive to life and property. The first of these great calamities was in 1586, and its anniversary is still commemorated. The earthquake of 1687 began at 4 o'clock in the morning and destroyed many houses. It recurred again at 6, and destroyed every house the first shock had spared. In 1746 the shocks began at 10½ P. M., Oct. 28, and in 3 minutes the greatest part of the city was in ruins. Callao was overwhelmed by the waves caused by the earthquake at sea, and of 23 ships in the harbor 19 were sunk, and the other 4, one of them a frigate, carried to a considerable distance inland. The last of these great earthquakes was on March 20, 1828, when the most solid buildings were rent from top to bottom, 1,000 persons were killed, and property was destroyed to the amount of \$6,000,000.—Of the inhabitants of Lima, the whites are remarkable for vivacity of manner and quickness of mind. Education has made great progress among them of late years, and the young men, though spending much of their time in indolence and dissipation, and devoted to cock-fighting and gambling, are extremely agreeable in their manners and conversation. The ladies of Lima are frequently very beautiful, with brilliant black eyes, graceful figures, and bright intelligent expressions, accompanied by the most pleasing manners, and frequently great natural talent and wit. Until within a few years they wore when walking abroad the *saya y manto*, a very becoming and elegant dress, now only seen at bull fights, religious processions, and on other great occasions. The *saya* is a petticoat made to fit so tightly that, being at the same time very elastic, the form of the limbs is rendered distinctly visible. The *manto* or mantle is also a petticoat, but, instead of hanging about the heels, it is drawn over the head, breast, and face, and is kept so close by the hands, which it also conceals, that no part of the body, except one eye, and sometimes only a portion of one eye, is perceptible. A rich colored handkerchief, or a silk band and tassel, is frequently tied round the waist and hangs nearly to the ground in front. About 1834 the close fitting skirt was abandoned for the *saya orbogozeta*, or full skirt. But of late years the French fashions have nearly superseded the national costume.—Lima was founded by Francisco Pizarro, the conqueror of Peru, on Jan. 6, 1535, the festival of Epiphany, in honor of which it was called *Ciudad de los Reyes*, or city of the kings, Epiphany being the day appointed to commemorate the worship of Christ by the Magi or kings of the East. This name, however, was soon superseded by that of Lima, a Spanish corruption of the native name Rimac.—See "Cuzco and Lima," by O. R. Markham (London, 1856); Hill's "Travels in Peru" (London, 1860).

LIMBO (Lat. *limbus*, border or edge), according to some of the scholastic theologians, one of the places into which departed spirits are received. St. Thomas Aquinas places hell in the centre of the earth; it is encircled first by purgatory, above which extend successively the *limbus infantum* and the *limbus patrum*. The former includes children dying before baptism, who according to different dogmatists pass thence to heaven or remain for damnation. The latter, which is also called the bosom of Abraham (*sinus Abraham*), includes the holy men of the old covenant, the patriarchs and other pious ancients, who died before the birth of Christ. According to the usual account, Christ opened this limbo when he went down into hell, liberated the souls detained there, and admitted them to the privileges of the blessed; and it has remained from that time closed and unoccupied. Dante describes the limbo in which he met with the distinguished spirits of pagan antiquity as the outermost circle of hell. A *limbus fatuorum*, or fools' paradise, is also mentioned.

LIMBURG, or LIMBOURG, a province of Belgium, bounded N. by Holland, E. by the duchy of Limburg, S. by Liège, and W. by S. Brabant and Antwerp; area, 934 sq. m.; pop. in 1858, 198,160. The chief towns are Hasselt, the capital, Tongres, Manseyc, and St. Trond. The surface is flat and underlaid with strata of fossiliferous limestone. Iron, calamine, and lead are the principal minerals. The most important river is the Meuse or Maas, which skirts the E. frontier. A large part of the surface is occupied by barren heaths, but in some localities, particularly in the S. and centre, there is much arable land. Pasturage is excellent and abundant along the Meuse, and cattle and swine are important items of production. The manufactures include soap, salt, pottery, paper, tobacco, straw hats, beet sugar, &c. The province was formed in 1839 of the greater part of the ancient province of Limburg, which was a part of the kingdom of the Netherlands, and was divided at the separation between Belgium and Holland.—LIMBURG, the former capital of the province, now forms part of the district of Verviers in the Belgian province of Liège; pop. about 2,000. It is picturesquely situated on the summit of a rock on the Vesdre river, and possesses manufactories of cloth. It is chiefly known from the strong-smelling cheese to which it gives its name, and which is largely exported. The greatest portion of this cheese, however, comes from the neighboring village of Harve.

LIMBURG, a duchy and province of Holland, and a member of the Germanic confederation, bounded N. by North Brabant, E. by Rhenish Prussia, S. by Belgium, and W. by Belgian Limburg; area, 852 sq. m.; pop. in 1858, 215,086. Capital, Maastricht; other chief towns, Roermond, Venloo, and Weerdt. The surface is diversified, but in general little elevated. The soil is of poor quality except in the valleys of the Meuse, Roer, Geule, IJterbeck, &c.; and large tracts of land are occupied by heaths and

marshes. Grain, hemp, flax, oil seeds, garden vegetables, and live stock are the principal products. Gin is made in large quantities, and there are manufactories of tobacco, soap, leather, paper, and glass. This province formerly belonged to Belgium, from which it was taken, and was finally annexed to Holland in 1838.

LIME, or **QUICKLIME** (symbol CaO ; chemical equivalent 28; specific gravity 2.3-3.08), the protoxide of calcium, a white, alkaline, earthy powder, obtained from the native carbonates of lime, such as the different calcareous stones and sea shells, by driving off the carbonic acid in the process of calcination or burning. From time immemorial it has served for the preparation of cements and mortar; and it is supposed, from the mention made of it in Isaiah xxxiii. 12, and in Amos ii. 1, that the modern method of manufacturing it was in use by the Hebrews. Very pure lime may be obtained by subjecting calcareous spar or some of the marbles, either light or dark colored (provided they are not dolomites), to a red heat in an open crucible, and in the free draft of the fire. If the crucible be closed, the stone may be melted and its texture altered without the separation of the carbonic acid. The magnesian carbonates of lime (see **DOLomite**) furnish lime of similar appearance, but combined with magnesia, and possessing somewhat different properties from pure lime, as will be noticed below. To obtain perfectly pure lime, the stone may be dissolved in hydrochloric acid, and the oxide of iron and alumina that may be present precipitated by ammonia and separated by filtering; the addition of carbonate of ammonia will then cause the precipitation of pure carbonate of lime, which, being collected by filtering and dried, is to be decomposed at a red heat. Lime is procured on a large scale by burning the stone in furnaces called kilns, either mixed with the fuel or exposed to the heated air and flames that proceed from side fires, through the central cavity of the furnace, in which the stones are collected. The calcined stones may retain their original form or crumble in part to powder; if protected from air and moisture, they can afterward be preserved without change. The substance possesses a powerful affinity for water, absorbing it from bodies in contact with it, whence its caustic property, and its application as a drying agent for abstracting moisture from gaseous mixtures, from alcohol, &c. Perfectly dry lime appears to have no affinity for carbonic acid; but when it has absorbed moisture it gradually takes up this gas from the air, and externally at least is converted into a combined carbonate and hydrate, of the composition represented by the formula $\text{CaO}, \text{CO}_2 + \text{CaO}, \text{HO}$. When water is poured upon lime, it is taken up with avidity; the lumps of lime open in cracks and swell; great heat is evolved, causing a hissing noise and clouds of steam; and the water, if not in too great quantity, disappears, the lime falling into a dry powder of the definite composition represented by the formula CaO, HO . This is called **slaking the lime**, and the

product is known as **slaked lime**. With an excess of water a paste is produced, called **milk of lime**. The water, if cold, dissolves from $\frac{1}{175}$ to $\frac{1}{100}$ of its weight of lime, and the solution is called **lime water**. It possesses decidedly alkaline properties and an acrid taste. The introduction of carbonic acid renders it turbid by formation of the insoluble carbonate, whence the use of lime water as a test for determining the presence of this gas. When lime water is boiled, half the lime is precipitated, but redissolves when the water becomes cold again. Lime was regarded as infusible until melted by the compound blowpipe of Dr. Hare. (See **BLOWPIPE**.) But though so difficult to melt alone, it readily fuses when mixed with silicious and ferruginous minerals, the fusion of each being promoted by their mixture. With the silica and alumina it forms a very fusible glass. Thus used in the blast furnace as a flux, it serves to wash out, as it were, the earthy matters combined in the ores with the oxide of iron. Lime when highly heated becomes intensely luminous, and in this state is used for the so called **Drummond light**. It slowly sublimates at the high temperature.—The chief use of lime is for the mortar or cement of brick and stone work, and for plastering walls. It is also largely consumed in agriculture as a manure. It is produced of different qualities according to the nature of the limestones or other material employed and the method of manufacture. The purer stones and oyster shells make what is called a **fat** or **rich lime**, which slakes rapidly on the application of water, doubles or more than doubles in bulk, and falls to a white, soft paste. This, when brought by stirring to uniform consistence, if protected from the action of the air, will undergo no change though kept for many years. Inferior limes are distinguished by slaking slowly with little if any increase of bulk, giving out but little heat in the process, and by leaving an insoluble residuum when dissolved in water frequently renewed in sufficient quantity for the solution of all the lime. Masons also value the limes according to the quantity of sand they find the different sorts will bear to be mixed with in the production of strong mortar. Limestones which contain various mineral ingredients produce lime that is distinguished by the name of **hydraulic**, the properties of which have been treated in the article **CEMENTS**. It has been customary to rank the lime made from magnesian limestones among those called **poor**, and it is generally spoken of as **slaking slowly**, and taking little sand; yet the highest priced lime in the New York and eastern markets is that of Smithfield, R. I., made from a magnesian stone. Excellent lime also has been produced in Westchester co., N. Y., from quarries near the Hudson river of white marble or dolomite, which gave by analysis 45.8 per cent. of carbonate of magnesia, and 52.8 per cent. of carbonate of lime. In slaking it nearly doubles in bulk, and in making mortar it takes 9 barrels of sand to one of lime, or two more than it is

customary to use with Thomaston lime. Burned with anthracite, the stone had always produced lime of very poor quality, slaking imperfectly and leaving lumps in the paste which failed to crumble when made into mortar. When such mortar was used for plastering, unless first ground in a mill, the lumps would at last slake upon the walls, which the masons call "pitting out," and produce unsightly blotches. It was only by the use of wood for fuel, or of bituminous coal producing much flame, that good lime was made. But it is probable that by using high steam of the temperature of 400° or 500° with the air that feeds the anthracite fires, this fuel might be used with equal advantage and greater economy. In the proportion of $\frac{1}{4}$ the weight of the anthracite, it causes with this a strong flame without checking the combustion. In this proportion steam is generated in the consumption of many of the woods and bituminous coals; and even with these fuels it is customary to introduce steam in European kilns, or sometimes to wet the stones instead, which is obviously a more imperfect process. A great part of the lime that supplies the Atlantic coast is brought from Thomaston and neighboring towns in Maine, where quarries of great extent are worked near the coast of Penobscot bay, and the lime is burned with anthracite from Pennsylvania. The excellent quality and cheapness of the lime have long secured markets for it even as far as New Orleans, and into the interior of the country as far as Lynchburg, Va., where, though close to extensive limestone districts, Thomaston lime is regularly quoted in the published prices current. In New York city it is used only for plastering, selling from \$1 to \$1.80 a barrel of 2½ bushels; a strong lime, but darker colored, from Kingston, Ulster co., is afforded at 70 cts. a barrel, answering very well for mortar for stone and brick work. Thomaston lime takes about $\frac{1}{4}$ of a cubic yard of sand, or 7 to 8 barrels, to one of lime.—For making mortar, a sharp clean sand of coarse grains is to be preferred. It is piled around in basin form, and the lime is thrown into the centre and slaked with water sufficient to make a creamy paste. This, being thoroughly worked with hoes, is then mixed with sand, which is well stirred into it. When laid with a trowel to hold stones or brick together, the water evaporates or is absorbed by the stones, which should be wetted to prevent this process taking place too rapidly, and the excess of mortar should be pressed out so as to leave the layer as thin as possible. Each grain of the sand is enveloped in a pellicle of lime, which adheres closely to it, and attaches it also to adjoining surfaces. A chemical change takes place in the lime in contact with the air by its absorbing carbonic acid and forming a stony carbonate, and according to some authorities the lime also partially unites in time with the silica of the sand, forming a superficial layer of still harder and stronger silicate of lime. This change is indicated by the property of old mortar when treated with acids to form a portion of gelatinous

silica, which some authorities state it always does. This is certainly the case with the hydraulic limes. But if common mortar be protected from the air, it may remain without hardening many years. It is stated that lime still in the condition of a hydrate has been taken from one of the pyramids of Egypt; and in one of the bastions of the citadel of Strasbourg, which was built in 1666, Gen. Treussart in 1822 found that the mortar used for its construction was still soft. The creamy paste or hydrate is often kept by builders in pits in the ground, and it improves by the thorough slaking which it undergoes. The excess of water is removed from the surface, and the lime is protected by a few inches of sand being thrown upon it. It is stated by Jahn that when the ruins of the old castle of Landsberg were removed, a lime pit that must have been in existence 800 years was found in one of the vaults. The surface of the mass was carbonated to the depth of a few inches, but below this the lime appeared as if freshly slaked, only rather more dry. It served for use in laying the walls of the new building. If common mortar be laid in water, it not only refuses to harden, but the lime is after a time dissolved out, and washed away.—Lime is burned in kilns of various forms; sometimes indeed, where wood is to be cleared off, in open log heaps, the stones interstratified with the wood. Pure limestone is thus easily converted into good lime, but much of it must be imperfectly burned; and silicious limestones should by such a process be partially melted and glazed upon the surface of the lumps, which is called "dead burnt," and the inner portions of these would escape calcination. Kilns used to be roughly built up of stones without mortar, in pyramidal or cylindrical structures, containing a cavity of corresponding form to the outside extending from top to bottom, about 15 feet in height. A favorite shape for this is still that of an egg set on end. The kilns are improved by a lining of clay, or of hard-burned brick, or still better of fire brick. Arched openings extend horizontally into the base of the kiln, sometimes 8 on a front of 15 feet, as was formerly the case with the oblong kilns at Thomaston, when lime was burned with wood; and in charging the kilns with stone, the larger lumps are built up in arch form, so as to extend these openings through to the back wall, leaving the space below for the fuel. The limestone being thrown in upon the temporary arches, the fires are kept up beneath these for 2 or 8 days and nights until the stone at the top is calcined. After cooling, the lime is drawn out and the operation is renewed. For this, called the intermittent kiln, have been substituted the perpetual or draw kilns, which are far more economical for large operations. These are of various shapes, some of them even having the common principle of charging the fuel and stone in alternate layers, and renewing these layers at the top as the charges settle down and the lime is drawn out at the bottom. A perpetual kiln of another

form was long since in use at Rüdersdorf near Berlin, and with very trifling modifications is employed in the United States under American patents. The fireplaces are in the side of the structure, usually about $\frac{1}{4}$ of the way up from the base, with flues discharging into the central cavity. They may number from 3 to 6 or more, distributed around the stack on one level; and at the base are the arched openings, one in each space, if convenient to have so many, between the fireplaces and alternating with them. The openings of the fireplaces and arches for discharging can all be closed by iron doors. The stone is charged at the bottom of the kiln, the wood or bituminous coal in the fireplaces, and the lime is drawn out below; and the operation may thus be continuously kept up. These kilns are usually constructed with great care; they are from 25 to 80 feet high, with a capacity of about 50 barrels of stone, and cost not less than \$1,000 each. They are of circular or rectangular area within. One in use at Berkshire, Mass., is described as a shaft 8 feet square without and 25 feet high, with a cavity 4 feet square, the walls thus being 2 feet thick. To the height of 7 feet from the base it is built 12 feet wide to afford room for a fireplace on each side; these are 2 feet high and 20 inches wide. With a consumption of 2 to 2 $\frac{1}{2}$ cords of wood a product of 75 bushels is obtained from 8 times drawing the lime in 24 hours; this is about equivalent to 1 part by measure of lime to 8 parts of wood. At Hastings on the Hudson a kiln of circular form with 6 fireplaces, and of the capacity of 50 barrels, produced in 1856 about 88 barrels of lime daily with the consumption of $\frac{3}{4}$ of a ton of the best cannel coal. The product of lime to the fuel consumed is very variable, the difference being chiefly due to the different kilns and methods of burning. Hassenfratz in his elaborate treatise on the production and use of lime gives the plans of many kilns, with descriptions of their workings; among which are noted the following: The intermittent kilns of the Pyrénées, in the form of a truncated cone, produce by measure 1 of lime to 2 $\frac{1}{2}$ of wood; those of Nemours, 1 of lime to 2 $\frac{1}{2}$ of soft wood; of Mezières, one of lime to 1.44 of wood; of Montreuil-sur-Mer, charging 150 barrels at once, 1 of lime to 1 of wood. The perpetual kilns of Littry produce 1 of lime with 0.36 to 0.37 of bituminous coal; of Grenoble, with 0.28 to 0.33 of coal; of Brioude, with 0.16 to 0.20 of good coal; and of Namur, with 0.18 of poor coal. The product of the Hastings perpetual kiln was about 1 of lime to 0.80 of best coal. If the full benefit of the fuel were obtained, the consumption should be $\frac{1}{8}$ the weight of dry wood, or of coal $\frac{2}{7}$ of the weight of the lime; but the proportionate measures above given of $\frac{1}{4}$ to $\frac{1}{2}$ are equivalent to $\frac{1}{10}$ to $\frac{2}{5}$ of the weight of the lime. There is still therefore great waste of fuel over the quantity theoretically required. The specific gravity of limestone is reduced by burning from $\frac{1}{2}$ to $\frac{1}{3}$, and the volume by 10 to 20 per cent. A cubic foot of Rüdersdorf lime-

stone, weighing 93 lbs., was reduced by burning to 49 lbs.; and stones weighing 100 lbs. and occupying a space represented by 209, were found after burning to be reduced to 188 in bulk.—Lime for agricultural purposes is produced at a very cheap rate on the west bank of the Hudson, just at the entrance of the highland narrows in Haverstraw. The ledges of limestone form the river cliffs, and against these are built 39 kilns of a capacity to produce daily 250 bushels each of slaked lime, or 125 bushels of quicklime. About 25 are kept in operation, making from 6,000 to 7,000 bushels, which is shipped in bulk on board vessels to be carried along the coast of Long Island sound and to the south as far as southern Virginia. The kilns are built in pairs, each pair discharging into one arch. The fuel is mixed dust and pea coal, costing about \$2 per ton delivered. A ton burns 200 bushels of slaked lime, thus making the cost of fuel 1 cent a bushel. The quarrying and burning, done by contract, cost as much more, beside the charge for steel used in blasting; but the whole expense for the slaked lime delivered on board the vessels lying opposite the mouth of the kilns does not exceed \$2.85 per 100 bushels. It sells readily at \$3.50, which is equivalent to 7 cts. a bushel for the quicklime. It is but little used however in this condition, probably because it is not of uniform quality. Much of the stone yields 92 per cent. carbonate of lime, and makes a hot and strong lime; in burning it crumbles to powder.—The principles of the application of lime to agricultural purposes may be found in Liebig's "Agricultural Chemistry;" and in London's "Encyclopædia of Cottage, Farm, and Villa Architecture" is a description of a kiln of cheap construction which he regards as the best he had ever seen or heard of.—Lime is applied to various other uses beside those named; as in the preparation of chloride of lime (see BLEACHING POWDERS); in the clarification of sugar; the purification of coal gas; removing hair from hides preparatory to tanning; and for numerous other purposes in the arts and manufactures. Reference may be made to the following works respecting its use, beside those named: Hassenfratz, *Traité théorique et pratique de l'art de calciner la pierre calcaire, et de fabriquer toutes sortes de matières, ciments, betons, &c.* (Paris, 1825); *Manuel du chauffournier* (16mo., Paris, 1836); Vicat, "Treatise on Calcareous Mortars and Cements," translated from the French by J. T. Smith (London, 1837); Dumas, *Chimie appliquée aux arts*, liv. v. chap. viii.; Regnault, *Cours de chimie*, vol. ii. (1849); Burnell, "Treatise on Limes, Cements, Mortars, Concretes," &c. (in Weale's "Rudimentary Series," 1850); Payen, *Chimie industrielle* (1851).

LIME, an exogenous fruit tree of the genus *citrus* (which includes also the citron, lemon, orange, and shaddock), in the natural order *aurantiacea*, with a spherical, succulent, indehiscent, many-partitioned berry (*bacca*), imbricated petals, nearly free stamens, and dotted leaves. It

is the *C. limetta* of Risso. Some botanists have regarded it as only a variety of the citron (*C. medica*, Willd.). The lime grows to the height of about 8 feet, with a crooked trunk having many diffused, prickly branches; its leaves are ovate-lanceolate, almost quite entire, with wingless, simple petioles. The common character of the family to which it belongs is that of low evergreen trees, whose fruits are large berries, round or oblong, and generally of a yellow color. The entire genus has been so long under cultivation, that varieties are better known than the original species. The juice of the fruit of the lime is not so sharp and acid as that of the lemon, but rather inclined to be bitter; it is employed for flavoring punch, sherbet, and other drinks, and it is extensively used on ships as an anti-scorbutic; it contains a large quantity of citric acid. From a variety of the lime called *cedrati* is extracted a much esteemed perfume.

LIME TREE. See BASS OR BARK WOOD.

LIMERICK, an inland county of Ireland, province of Munster, bounded N. by the Shannon, E. by Tipperary, S. by Cork, and W. by Kerry; area, 1,064 sq. m.; pop. in 1851, 262,136. The surface is mountainous in the N. E., S., and S. W., and elsewhere level or undulating. The most important rivers are the Shannon, Maig, Deel, and Mulkern. The prevailing geological formations are limestone, trap, and sandstone; and iron, copper, and lead ores are found. The soil is very fertile, especially along the banks of the Shannon and in the "Golden Vale," a tract which extends from Tipperary W. through the centre of the county. An excellent breed of long-horned cattle is reared here, and cattle raising and dairy farming are the principal branches of industry. Wheat, oats, rye, potatoes, and turnips are extensively grown. The manufactures consist of coarse woollens, lace, paper, flour, and meal; and large quantities of the products of the country are exported. The chief towns are Limerick, Rathkeale, and Newcastle. The county sends two members to the imperial parliament. This county is the most interesting in Ireland to the archæologist, on account of its numerous Cyclopean remains, military earthworks, ancient castles, and ruins of religious houses. (See IRELAND.)—**LIMERICK**, the capital of the preceding county, a city, and a county in itself, is situated on the estuary of the Shannon, in lat. 52° 39' N., long. 8° 39' W., 106 m. S. S. W. from Dublin, with which and with Cork and Waterford it is connected by railway; pop. in 1851, 53,448. It consists of the "English town," built on an island in the Shannon, and the "Irish town" and "Newtown-Perry," on the left bank of the river. These 3 portions are connected by 5 bridges, one of which cost £35,000. Newtown-Perry is filled with handsome modern houses, and is much the most attractive part of the city. The houses on the island are principally in the Flemish style. The chief public edifices of Limerick are the law courts, prisons, custom house, chamber of commerce, exchange, linen

hall, corn and butter markets, assembly rooms, barracks, and hospitals. There are 18 places of worship, of which 6, including a cathedral with remarkably fine bells, belong to the established church, and 7 to the Roman Catholics. The castle of Limerick is even in its ruins a noble structure. The streets, except in the old quarters, are spacious and regular, and the appearance of the town is very bustling and animated. The staple manufactures are now fish hooks, lace, flour, malt liquors, spirits, leather, and iron; linen and gloves were formerly made very extensively, and there are still some establishments for the production of the latter articles, Limerick gloves being renowned for their excellence. Ship building is also a prominent branch of industry. Limerick has an active foreign trade, being next to Cork the chief seaport of Munster. By the grand canal and by railway it has ready communication with the most important towns of Ireland, while its harbor is sufficiently capacious to receive a large amount of shipping, extending nearly a mile along the river, and has a breadth of 150 yards, with from 2 to 9 feet of water at low tide and 19 feet at spring tide. The line of quays extends about 1,600 yards, and there are also floating docks. During the year ending Dec. 31, 1856, the commerce of the port was as follows:

Character.	Entered.		Cleared.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
Foreign	72	21,181	26	9,522
Coasting	374	53,579	893	53,997
Total	446	75,060	424	63,519

The registered shipping of the port comprised 78 vessels with an aggregate burden of 10,836 tons. The city sends two members to the house of commons. Limerick surrendered to the parliamentarians under Ireton in 1651, after a gallant defence, and was the last place in Ireland which submitted to William III. in 1691. A treaty was signed here on the latter occasion guaranteeing to the Irish Roman Catholics certain religious rights, and promising an amnesty to all who took the oath of allegiance. It is the head-quarters of the S. W. military district, and possesses several barracks. Riots among the soldiery took place there in 1857.

LIMESTONE, a generic term for all the carbonates of lime except calcareous spar and chalk. (See LIME.)

LIMESTONE. I. A N. co. of Ala., bordering on Tenn., bounded S. by the Tennessee river, and watered by Elk river and its branches and several creeks; area, 575 sq. m.; pop. in 1850, 16,483, of whom 8,063 were slaves. The surface is hilly, and soil very productive. The rock is limestone, from which the county derives its name. The productions in 1850 were 861,664 bushels of Indian corn, 59,571 of sweet potatoes, 14,809 bales of cotton, and 2,199 lbs. of rice. There were 6 grist mills, 3 saw mills, 1 cotton factory, 27 churches, and 655 pupils attending schools. Capital, Athens. II. A cen-

tral co. of Texas, watered by the Navasoto and several other small streams; area, 560 sq. m.; pop. in 1858, 3,087, of whom 959 were slaves. The surface is undulating; about two thirds of the soil is a fertile sandy loam, the rest being black, sticky prairie. The productions in 1858 were about 4,382,400 lbs. of cotton, 14,700 bushels of wheat, and 303,210 of Indian corn. Capital, Springfield.

LIMITATION, STATUTES OF, laws which provide that certain debts or claims shall not be prosecuted after a certain time. The origin of these statutes, which are now found in every civilized community, was undoubtedly the probability that an old debt had been paid, and the hardship of holding a payer to pay his debt twice over, because, in the lapse of time, he had lost the evidence of his payment. When therefore such a stale debt was brought before a court, the law presumed that it had been paid, without proof. Such a presumption still exists in cases not provided for by the statutes; it being a general rule of the common law of England and America, that there is a presumption of payment of all personal claims, after 20 years have passed without any evidence of acknowledgment by the debtor. But in the year 1624 (21 James I.) it was enacted by the parliament of England, that all actions of account, and all actions upon the case other than such accounts as concern the trade of merchandise between merchant and merchant, all actions of debt on any lending or simple contract, and all actions of debt for rent due, should be commenced and sued within 6 years next after the cause of such actions should accrue. This statute was the foundation of all the statutes of limitation which have been since then enacted in England and in the United States; nor have they varied greatly from it. Divested of technical language, it may be said, that no action can be maintained for any debt more than 6 years old, founded upon a simple contract; by which is meant any contract not created by a sealed instrument or resting on a judgment of court. The exception of actions founded on mutual accounts of trade between merchants is common; and in Massachusetts and Maine there is an exception in favor of a witnessed note of hand, these accounts and notes being barred only by the 20 years' presumption. At the outset, and for some years, or perhaps generations, the courts favored these laws, and construed them liberally against the debt or action. Then, however, the views and practice of courts changed, and they seemed to regard the statutes of limitation as proper objects of dislike, and construed them very liberally in favor of the debt or action. That is, they permitted the defence of the statute to be overthrown by slight and even frivolous evidence of any acknowledgment on the part of the debtor within 6 years; and although they could not say that this made the original debt any younger, and so took it out of the operation of the statute, they did say that the acknowledgment was a new promise, and maintained

the action on this ground. Thus even Lord Mansfield said (Cowper, 548): "The slightest acknowledgment has been held sufficient; as saying, 'Prove your debt and I will pay you;' or 'I am ready to answer, but nothing is due to you;' and much slighter acknowledgments than these will take a case out of the statute." But a few years since wiser views began to prevail. Judge Story said (5 Mason, 523): "I consider the statute of limitation as a highly beneficial statute, and entitled as such to receive, if not a liberal, at least a reasonable construction, in furtherance of its manifest object." These views now decidedly prevail both in England and America. The question, by what rule the statute shall be construed, is in fact the question whether it shall be regarded as a statute of presumption or a statute of repose. If the former, then an action founded upon an old debt is to be barred only because it is probable that an old debt has been paid; and therefore all confessions or acknowledgments, all acts and all words, in any way throwing a doubt on this payment, may be considered as overthrowing the presumption of payment, and maintaining the action. But if it is to be regarded as a statute of repose, then it is founded on the principle that an old debt, whether it have been paid or not, should not now be brought out to disturb relations between the parties which had become settled by time; for a creditor who has been negligent enough to let his debt lie by so long, neither prosecuted nor verified, should lose it, because the peace of society requires that claims which have long slumbered should be considered as dead. Where this view was adopted, it is plain that no mere acknowledgment of an old debt would prevail against the statute; but if the debtor saw fit to make, within the 6 years, a distinct new promise to pay the debt, there was no reason why he might not make it, and none why, if he made it, he should not be held to perform it. So also, if the debtor saw fit to make, within the 6 years, a part payment of the debt, not in full, but as an acknowledgment of the whole debt, it might fairly be regarded as a promise to pay the remainder, and as reviving the balance of the debt. These views at length prevailed so decidedly in England, that in 1828 (9 George IV.), what is there called Lord Tenterden's act was passed; which appeared to be so reasonable, and was found in its operation so useful, that it has been widely adopted in the United States. This statute provides, in substance, that no debt which is barred by the statute of limitation shall be revived by any new promise or acknowledgment, unless that be in writing; but this statute still permits a part payment to revive the debt.—As the law now stands, it may be said that the new promise which revives a debt must not be in words of doubtful meaning, but an actual promise; some of our courts however, it must be admitted, apply the rule, even now, with much laxity. So if there be an acknowledgment, written where that is required,

or spoken elsewhere, it must be a distinct acknowledgment that the debt now exists and is due. It need not acknowledge or promise any precise amount, for evidence may prove this; but it must be sufficiently precise and definite to show that this very debt was in contemplation when the promise or acknowledgment was made. Hence, it is now clear that an acknowledgment which negatives a promise, as "I owe that debt, but do not choose to pay it," does not revive the debt; and it is but an extension of this rule, to say that an acknowledgment so guarded and defined or limited that it cannot be fairly regarded as intended to be a new promise, will not revive the debt. So if the promise or acknowledgment be conditional, as, "when I am able," or "if I recover such a debt," it revives the debt only if the condition be performed. And however full an acknowledgment may be, the debtor may show by the accompanying words or acts (the *res gesta*, in law phrase) that it was not understood nor intended by the parties as an acknowledgment. So too the acknowledgment or promise must be voluntary.—If part payment is relied upon as reviving the debt, it must be shown, by direct or circumstantial evidence, that the payment was made as a part of a larger debt, and of the debt in controversy; for in the absence of all such evidence it will be presumed that the payment was made as of the whole that was due. A payment, if made in part, revives the debt although it be made by a promissory note or bill of exchange, or by bank bills or coin which turn out to be counterfeit. So, if a debtor owes his creditor several debts, some of which are outlawed (which is a common phrase for barred by time) and some are not, and pays him a sum of money without indicating what debt it shall be applied to, the creditor may apply the payment to the outlawed debts, but cannot, by such part payment, revive the remainder. But if a debt consist of principal and interest, a payment on account of either will take the whole debt from the statute. Tenterden's act, which requires the new promise to be in writing, is now held, in England and in the United States, not to require the evidence of a part payment to be in writing. As a part payment operates as a new promise, it is clear that no part payment can revive a debt, unless it be made not only on account of the debt, but by some one who had authority from the debtor to make it as a part payment, or to bind him by his promise. If the original promise were made by two jointly, it cannot be revived by either so as to bind the other, unless he has (as a partner has if the firm be in existence when the promise is made) a right to promise for himself and the other also. Formerly, the acknowledgment by one revived it as to all, because it removed the presumption of payment. But now that the statute is regarded as one of repose, the rule is as above stated.—It is important to determine when the 6 years begin to run. The general answer is, from the day when the creditor

could have commenced an action for the debt. Thus, if the original promise be on time, or a sale be on credit, or any debt contracted on definite credit, the 6 years do not begin when the debt begins, but when it is payable; that is, when the time or the credit expires. So if a surety pays for his principal, he may make his principal repay him; and his action is not barred when 6 years elapse from the maturity of the debt which the surety paid, but from the time of his payment. If an action cannot be brought until after a demand, it is not barred (or outlawed) until 6 years after the demand is made. But a note on demand may be sued at once, and is always payable; and the 6 years begin to run against it from its date. The 6 years begin to run as soon as the action accrues, although the damage or injurious consequences occur later; as if one is injured by the fault of another, a railroad company for example, the action must be brought within 6 years from the time when the injury occurs, although its consequences, for which the action is in fact brought, were developed at a much later period. If money be payable by instalments, the statute begins to run as to each instalment from the day on which it becomes due; but if there be an agreement that when one is unpaid all shall become due, the statute begins at once to run as to all.—As the statute does not begin to run until an action could be brought, so it does not apply at all against those who could not bring an action, or could not bring it without especial difficulty. The statutes of limitation always contain exceptions to meet these cases. In general, they are substantially the same as the exceptions in the original statute of James, which provides that if the plaintiff, when the cause of action accrues, be within the age of 21 years, a married woman, of unsound mind, in prison, or beyond the seas, he may bring his action at any time within 6 years after the disability is removed; or, as it is commonly expressed, the statute does not begin to run until the disability is removed. In applying this rule, it is held, that if the disability does not exist when the cause of action accrues, or if it exist then and is afterward removed, although but for a short time, so that the statute once begins to run, the statute is not suspended or arrested by a subsequent disability. If several disabilities exist when the cause of action accrues, the statute does not begin to run until all are removed; but if there be one at that time, and afterward but before that one be removed there be other disabilities, the statute begins to run as soon as the first is removed, and is not affected by the subsequent ones. Thus, if one was 20 years old when a debt to him accrued, and before he was 21 went abroad and remained 10 years, he could not bring his action on his return, because the statutory 6 years began as soon as his minority expired. So too, by a later English statute (4 Anne, ch. 16, s. 19), generally enacted here, it is provided that if the defendant be out of reach, as beyond

the seas, when the action accrues, the 6 years do not begin against the plaintiff until the defendant returns. In the application of this rule, the courts of this country remember its reason, and do not permit the 6 years to commence until the defendant returns in such a way as to be accessible. But in England, if he comes back and hides himself for a few days, and then goes abroad again, the 5 years begin from the moment of his return, although he had taken adequate precaution to prevent the plaintiff from knowing it, or finding him. In the United States, instead of the English phrase "beyond the seas," other phrases are used, the most common of which is, "out of the state," and all are held to mean that.—It is sometimes provided that if, after the action accrues, the defendant shall be absent from and reside out of the state, the time of his absence shall not be taken as any part of the time limited for the commencement of the action. Where there is this provision, it has been questioned whether the aggregate of successive and distinct absences can be deducted from the time, or only one single absence. This is determined differently. Thus, in New York, but one single absence is deducted; while in New Hampshire all the absences are.—The statute affects only the remedy for the debt, or the right to recover it by action, but does not affect the validity of the debt. Hence it does not affect any security given for the debt. Thus, if there be a mortgage of land or of goods to secure a note or bond, this mortgage remains in full force, although the 6 years have expired, and no action can be maintained on the note or bond.—Because the law of limitation is a law of remedy and not of right, it affects the method of recovering a debt, but not the debt itself; and therefore, in general, the law of the forum (*lex fori*), or the law of the place where the action is brought, determines the limitation, and not the law of the place where the debt is contracted. Thus if A lives in Massachusetts, and there owes to B a certain debt which will be barred in 6 years, and they both go to Rhode Island, where we will suppose the debt to be barred in 3 years, and after 3 years B sues A in Rhode Island, the law of Rhode Island bars the action, although the law of Massachusetts would not. And we think the converse proposition equally true, although it is not quite so distinctly settled by adjudication. That is, if the limitation be shorter in the state where the debt was contracted, and longer in that to which the parties have come, it is this last law which prevails. In Massachusetts (11 Pickering, 36) it was held that if both parties remain abroad until the debt is wholly barred where it was contracted, and then both come into that state, the creditor may sue the debtor in Massachusetts until 6 years have expired after their coming into that state. The principle seems to be, that 6 years do not bar a debt before any jurisdiction, unless they are 6 years from the time when the creditor might have sued the debtor before that jurisdiction.—These statutes of limitation

apply generally only to simple contracts, and therefore do not affect actions founded on any specialties, as deeds, bonds, or judgments, or any action to recover land. For all of these there is now in this country a very common but not universal limitation of 20 years. Beside these there are, in the several states, and in the United States, various provisions as to other actions, in which there is little uniformity, and of which we could make no useful statement without occupying many pages with the details. Thus, a limited time is given within which actions may be brought against sheriffs, or marshals, or executors or administrators, or for slanderous words, or for personal assaults or trespasses. For some of these actions, and in some of the states, this limitation is very short. Thus in Alabama, an action for words must be brought within one year from their utterance.—One universal exception is made, either by statute or by adjudication, to all limitation; it is by the application of the ancient law maxim: *Nullum tempus occurrit regi*; or in other legal words, no laches (or neglect) is imputable to the king, or in the United States to the state or government. Therefore any rights of action possessed by the state may be enforced by action at any time, so far as the general statutes of limitation might affect them. But in many of the states there are statutes which bar the right of the state after a certain period; as when encroachments on a road have been long permitted. The act of congress of April 30, 1790, limits the prosecution for treason or other capital offence, except murder or forgery, to 3 years next after the commission of the crime, and for offences not capital to 2 years, unless the party accused fled from justice; and there are in many of the states limitations to prosecutions for crime.—The word "limitation" is also used in law in deeds transferring real estate. It means that an estate cannot continue after a certain contingency occurs; the limitation of an estate is therefore the definition or restriction which confines an estate not to a time certain, but to a time which may be rendered certain by the happening of an event; as if an estate be given to hold until from the net proceeds a certain sum shall be made, or until the grantee marries. The distinction between a limitation in a deed and a condition is technical, and sometimes difficult. In general, if an estate is given to be held by the grantee until a specified event shall occur, this is but a limitation; but if it be given only with a proviso, or a condition (that is, with the words, "provided that," or "on condition that"), to the effect that the estate or interest of the grantee shall cease and determine when the event shall occur, this is not a limitation, but a condition.

LIMOGES, a town of France, capital of the department of Haute-Vienne, situated on the right bank of the Vienne, which is here crossed by 3 bridges, 250 m. by the Orleans railway S. by W. from Paris; pop. in 1856, 42,095. It is built on the top and side of a hill, and except in its

older parts has regular streets, with two handsome squares and many fine edifices. The principal public buildings are the cathedral, a Gothic structure of the 13th century, the bishop's palace, the public library, which contains 12,000 volumes, the town hall, the theatre, and the beautiful fountain of Aigoulène. The town also contains a theological seminary, a college, a mint, and several institutions of charity. It has manufactories of woollens, flannel, cotton handkerchiefs, woollen yarn, paper, papier maché, porcelain, and crucibles, and is largely engaged in the book publishing business. The art of enamelling, for which Limoges was distinguished from the 14th to the 18th century, has since declined. A casket of its enamelled work, with singular representations of the culture of the vine, treading the wine press, &c., was presented in 1859 to the archaeological institute of London. The commerce is active in grain, wine, brandy, iron, copper, tin, and kaolin. Fine horses are raised here.—Limoges was the chief town of the Celtic tribe of the Lemovices. It was a place of importance under the Romans, was ceded to the English by the treaty of Bretigny, and formed part of the principality of Aquitania under Edward the Black Prince, who in 1370 put 3,000 of its inhabitants to the sword in consequence of a revolt against his authority. Limoges is one of the oldest strongholds of Roman Catholicism in France, having supplied the church with 4 popes and 60 saints, and possessed more than 40 convents before the revolution.

LINACRE, THOMAS, an English physician and clergyman, born in Canterbury about 1460, died in London, Oct. 20, 1524. He was a fellow of Oxford, studied on the continent, became professor of physic at Oxford, was physician and tutor to the prince of Wales, and physician to Henry VIII. and to the princess Mary. Through his influence the college of physicians in London was founded, and he was its president during life. He also studied divinity, and received various preferments. He was unrivalled as a physician, and as a scholar he ranks with Colet, Lily, Grocyn, and Latimer. His most celebrated works are his Latin translations from Galen, which, in the opinion of Erasmus, "speak better Latin than they ever spoke Greek."

LINCOLN, the name of counties in 6 of the United States. I. A S. co. of Me., bounded S. by the Atlantic and W. in part by the Kennebec river, and drained by Sheepscott, Damariscotta, Muscongus, and St. George's rivers; area in 1850, 950 sq. m.; pop. in 1850, 74,875. A new county, Knox, was formed from parts of Lincoln and Waldo counties in 1860. The soil is productive, but the attention of the inhabitants is principally directed to navigation and the fisheries. It has a sea coast of about 50 m., with many fine harbors. The productions in 1850 were 7,815 bushels of wheat, 154,452 of Indian corn, 84,137 of oats, and 115,410 lbs. of wool. There were 6 grist mills, 84 saw mills, 4 iron foundries, 7 woollen factories, 12 tanneries, 118 churches, 12 academies with 508 pupils,

and 408 schools with 25,757 scholars. Capital, Wiscasset. II. A. S. W. co. of N. O., intersected by the South Catawba, and bounded E. by the Great Catawba; area, 275 sq. m.; pop. in 1850, 7,746, of whom 2,063 were slaves. The surface is undulating and the soil fertile. Gold is found in the E. portion of the county, and iron is abundant. The productions in 1850 were 36,256 bushels of wheat, 274,831 of Indian corn, 506 bales of cotton, and 1,108 lbs. of tobacco. There were 28 grist mills, 17 saw mills, 4 iron foundries, 1 woollen factory, 25 churches, and 68 pupils attending schools. Capital, Lincolnton. III. A. N. E. co. of Ga., bounded N. E. by the Savannah river, which separates it from S. O.; area, 220 sq. m.; pop. in 1859, 5,810, of whom 8,728 were slaves. The surface is hilly and the soil moderately fertile. The productions in 1850 were 204,594 bushels of Indian corn, 32,123 of sweet potatoes, and 5,447 bales of cotton. There were 6 saw mills, 8 tanneries, 14 churches, and 153 pupils attending schools. Capital, Lincolnton. IV. A. S. co. of Tenn., bordering on Ala.; area, 650 sq. m.; pop. in 1850, 23,492, of whom 5,621 were slaves. The Elk river intersects it from E. to W. The surface is undulating, and the soil fertile. It is well watered, the streams affording valuable water power. The productions in 1850 were 1,873,821 bushels of Indian corn, 239,707 of oats, 63,036 of sweet potatoes, and 13,285 lbs. of tobacco. There were 40 grist mills, 11 saw mills, 13 tanneries, 84 churches, and 2,039 pupils attending schools. Capital, Fayetteville. V. A central co. of Ky., drained by Dick's river and its branches, and by the sources of Green river; area, 280 sq. m.; pop. in 1850, 10,093, of whom 3,855 were slaves. The surface is undulating, and the soil fertile. The productions in 1850 were 740,499 bushels of Indian corn, 87,485 of oats, 40,655 lbs. of wool, and 2,000 of tobacco. There were 10 grist mills, 4 saw mills, 6 tanneries, 12 churches, and 775 pupils attending schools. Capital, Stanford. VI. An E. co. of Mo., separated from Ill. by the Mississippi river; area, 576 sq. m.; pop. in 1856, 11,630, of whom 2,609 were slaves. It is drained by the Cuivre or Copper river and its branches, and by the Eagle fork and Big creek. The surface is undulating and the soil fertile. The productions in 1850 were 64,552 bushels of wheat, 567,472 of Indian corn, 70,494 of oats, and 29,434 lbs. of wool. There were 10 grist mills, 2 saw mills, 8 churches, and 1,564 pupils attending schools. Capital, Troy.

LINCOLN, a city and parliamentary and municipal borough of England, capital of Lincolnshire, and a county in itself, situated on the Witham, 120 m. N. from London; pop. in 1851, 17,586. It is irregularly built, is paved, lighted with gas, and well supplied with water. The principal edifice is the cathedral, conspicuously situated on an eminence, and regarded as one of the finest in the kingdom. Its length including buttresses is 516 feet, width 174 feet. There are 3 towers, the central being 270 feet high,

the others 180 feet each. In the principal tower is hung the bell called Great Tom of Lincoln. Among its educational institutions is Christ's hospital, or the blue-coat school, which has an annual revenue of £2,000. Lincoln returns two members to parliament.

LINCOLN, ABRAHAM, an American lawyer and statesman, born in a part of Hardin co., Ky., which is now included in Larue co., Feb. 12, 1809. His ancestors, who were Quakers, went from Berks co., Penn., to Rockingham co., Va., and from there his grandfather Abraham removed with his family to Kentucky about 1782, and was killed by Indians in 1784. Thomas Lincoln, the father of Abraham, was born in Virginia, and in 1806 married Nancy Hanks, also a Virginian. In 1816 he removed with his family to what is now Spencer co., Ind., where Abraham, being large for his age, was put to work with an axe to assist in clearing away the forest, and for the next 10 years was mostly occupied in hard labor on his father's farm. He went to school at intervals, amounting in the aggregate to about a year, which was all the school education he ever received. At the age of 19 he made a trip to New Orleans as a hired hand upon a flat boat. In March, 1830, he removed with his father from Indiana, and settled in Macon co., Ill., where he helped to build a log cabin for the family home, and to make enough rails to fence 10 acres of land. In the following year he hired himself at \$12 a month to assist in building a flat boat, and afterward in taking the boat to New Orleans. On his return from this voyage his employer put him in charge as clerk of a store and mill at New Salem, then in Sangamon, now in Menard co., Ill. On the breaking out of the Black Hawk war in 1832 he joined a volunteer company, and to his surprise was elected captain of it, a promotion which, he says, gave him more pleasure than any subsequent success in life. He served for 3 months in the campaign, and on his return was in the same year nominated a whig candidate for the legislature; but the county being democratic, he was beaten, though his own election precinct gave him 277 votes and only 7 against him. He next opened a country store, which was not prosperous, was appointed postmaster of New Salem, and now began to study law by borrowing from a neighboring lawyer books which he took in the evening and returned in the morning. The surveyor of Sangamon co. offering to depute to him that portion of his work which was in his part of the county, Mr. Lincoln procured a compass and chain and a treatise on surveying, and did the work. In 1834 he was elected to the legislature by the highest vote cast for any candidate, and was reelected in 1836, 1838, and 1840. In 1836 he obtained a license to practise law, and in April, 1837, removed to Springfield, and opened an office in partnership with Major John F. Stuart. He rose rapidly to distinction in his profession, and was especially eminent as an advocate in jury trials. He did not, however,

withdraw from politics, but continued for many years a prominent leader of the whig party in Illinois. He was several times a candidate for presidential elector, and as such in 1844 he canvassed the entire state, together with part of Indiana, in behalf of Henry Clay, making almost daily speeches to large audiences. In 1846 he was elected a representative in congress from the central district of Illinois, and took his seat on the first Monday of Dec. 1847. In congress he voted for the reception of anti-slavery memorials and petitions; for motions by Mr. Giddings for committees to inquire into the constitutionality of slavery in the district of Columbia, and the expediency of abolishing the slave trade in the district; for various resolutions prohibiting slavery in the territory to be acquired from Mexico. He voted 42 times in favor of the Wilmot proviso. On Jan. 16, 1849, he offered to the house a scheme for abolishing slavery in the district by compensating the slave-owners from the treasury of the United States, provided a majority of citizens of the district should vote for the acceptance of the proposed act. He opposed the annexation of Texas, but voted for the loan bill to enable the government to defray the expenses of the Mexican war. He voted also in favor of river and harbor improvements, in favor of a protective tariff, and of selling the public lands at the lowest cost price. He was a member of the whig national convention of 1848, and advocated the nomination of Gen. Taylor. In 1849 he was a candidate for the U. S. senate, but the legislature was democratic, and elected Gen. Shields. After the expiration of his congressional term Mr. Lincoln applied himself to his profession till the repeal of the Missouri compromise called him again into the political arena. He entered with energy into the canvass which was to decide the choice of a U. S. senator in place of Gen. Shields, and it was mainly to his exertions that the triumph of the republicans and the election of Judge Trumbull to the senate was attributed. At the republican national convention in 1856, by which Col. Fremont was nominated for president, the Illinois delegation ineffectually urged Mr. Lincoln's nomination for the vice-presidency.—On June 2, 1858, the republican state convention met at Springfield, and unanimously nominated him as candidate for U. S. senator in opposition to Mr. Douglas. The two candidates canvassed the state together, speaking on the same day at the same place. The debate was conducted with eminent ability on both sides, and excited universal interest. In the course of this debate Mr. Lincoln said, in reply to questions from his antagonist: "I do not now, nor ever did, stand in favor of the unconditional repeal of the fugitive slave law. I do not now, nor ever did, stand pledged against the admission of any more slave states into the Union. I do not stand pledged against the admission of a new state into the Union with such a constitution as the people of that state may see fit to make. I do not stand to-day pledged to the

abolition of slavery in the district of Columbia. I do not stand pledged to the prohibition of the slave trade between the different states. I am impliedly, if not expressly, pledged to a belief in the right and duty of congress to prohibit slavery in all the United States territories." He said further in explanation of these answers: "In regard to the fugitive slave law, I have never hesitated to say, and I do not now hesitate to say, that I think, under the constitution of the United States, the people of the southern states are entitled to a congressional fugitive slave law. Having said that, I have had nothing to say in regard to the existing fugitive slave law, further than that I think it should have been framed so as to be free from some of the objections that pertain to it, without lessening its efficiency. And, inasmuch as we are not now in an agitation in regard to an alteration or modification of that law, I would not be the man to introduce it as a new subject of agitation upon the general question of slavery. In regard to the other question, of whether I am pledged to the admission of any more slave states into the Union, I state to you very frankly that I would be exceedingly sorry ever to be put in a position of having to pass upon that question. I should be exceedingly glad to know that there would never be another slave state admitted into the Union; but I must add that, if slavery shall be kept out of the territories during the territorial existence of any one given territory, and then the people shall, having a fair chance and a clear field, when they come to adopt their constitution, do such an extraordinary thing as to adopt a slave constitution, uninfluenced by the actual presence of the institution among them, I see no alternative, if we own the country, but to admit them into the Union. In regard to the abolition of slavery in the district of Columbia, I have my mind very distinctly made up. I should be exceedingly glad to see slavery abolished in the district of Columbia. I believe that congress possesses the constitutional power to abolish it. Yet as a member of congress I should not with my present views be in favor of endeavoring to abolish slavery in the district of Columbia unless it would be upon these conditions: 1, that the abolition should be gradual; 2, that it should be on a vote of the majority of qualified voters in the district; and 3, that compensation should be made to unwilling owners. With these three conditions, I confess I would be exceedingly glad to see congress abolish slavery in the district of Columbia, and, in the language of Henry Clay, 'sweep from our capital that foul blot upon our nation.'" The result of the election was a vote of 125,275 for the republican candidates, who were pledged to the election of Mr. Lincoln, 121,190 for the Douglas candidates, and 5,071 for the Lecompton candidates. Mr. Lincoln had thus a majority of more than 4,000 on the popular vote over Mr. Douglas; but the latter was elected senator by the legislature, in which his supporters had a majority of 8 on joint ballot.—On May

16, 1860, the republican national convention met at Chicago, and on May 18 began to ballot for a candidate for president. The whole number of votes was 465—necessary to a choice, 238. On the first ballot Mr. Seward received 178½, Mr. Lincoln 102, Mr. Cameron 50½, and Mr. Bates 48, while the rest were scattered among several candidates. On the second ballot Mr. Seward had 184½, and Mr. Lincoln 181. On the third ballot Mr. Lincoln had 354, Mr. Seward 110½, Mr. Dayton 1, and Judge McLean ½ a vote. The nomination of Mr. Lincoln was subsequently made unanimous on motion of the chairman of the New York delegation.

LINCOLN, BENJAMIN, an American general, born in Hingham, Mass., Jan. 24, 1783, died there, May 9, 1810. Until the age of 40 he followed the calling of a farmer, holding also at different times the offices of magistrate, representative in the provincial legislature, and colonel of militia. He was also an active member of the 8 provincial congresses of Massachusetts, and as a militia officer displayed an efficiency which procured his promotion in 1776 to the rank of major-general. In this capacity he became favorably known to Washington during the siege of Boston. After the American defeat on Long island he was despatched by the council of Massachusetts to join Washington with a body of militia, and he subsequently participated in the battle of White Plains and other engagements. In the beginning of 1777 he joined Washington at Morristown with a new levy of militia, and soon after, at the suggestion of the commander-in-chief, was transferred to the continental service with the rank of major-general. After serving for several months in New Jersey, he was sent to join the forces assembled to oppose the progress of Burgoyne, and during the battle of Bemus's heights commanded inside the American works. On the succeeding day, while reconnoitring in the vicinity of the enemy's position, he was severely wounded in the leg, and compelled for nearly a year to retire from service. In Sept. 1778, he was appointed to the command of the southern army, and for several months was engaged in protecting Charleston against the demonstrations of Gen. Prevost. Upon the arrival of Count d'Estaing he cooperated with the French troops and fleet in the unsuccessful assault on Savannah; and from the unwillingness of his allies to continue the siege he was obliged to return to Charleston, where in the spring of 1780 he was besieged by a superior British force under Sir Henry Clinton. After an obstinate defence he was forced in May to capitulate, and in November retired to Massachusetts on parole. In the spring of the succeeding year he was exchanged, and immediately joined Washington on the Hudson, and subsequently participated with credit in the siege of Yorktown. In consideration of his merits and misfortunes Washington appointed him to receive the sword of Cornwallis upon the surrender of the British forces. He held the office of secretary of war for two years from

Oct. 1781, and then returned to his farm. In 1787 he commanded the forces which quelled the Shays rebellion in western Massachusetts, and in the same year he was elected lieutenant-governor of the state, which office he held one year. Upon the establishment of the federal government, being in somewhat straitened circumstances, he received from Washington the appointment of collector of Boston, from which office he retired about two years before his death. He was a member of the commission which in 1789 formed a treaty with the Creek Indians, and of that which in 1793 unsuccessfully attempted to enter into negotiations with the Indians north of the Ohio. He was one of the noblest characters of the revolutionary period, and possessed the regard of Gen. Washington and of many other eminent men.—See life by Francis Bowen in Sparks's "American Biography" (2d series, vol. xiii.).

LINCOLN, JOHN LARKIN, LL.D., an American scholar and author, born in Boston, Feb. 23, 1817. He was graduated in 1836 at Brown university, where, after two years' residence at the Newton theological institution, he held the office of tutor in Latin for two years, and then passed several years in Europe in travel and literary studies. In 1844 he returned to the United States, and in the autumn of that year was appointed to the professorship of the Latin language and literature in Brown university, which he still retains. He is well known as a writer on classical and literary subjects in reviews and periodicals, and has published "Selections from Livy" (1847) and the "Works of Horace" (1851) for schools and colleges.

LINCOLN, I. LEVI, an American lawyer and statesman, born in Hingham, Mass., May 5, 1749, died April 14, 1820. His father, a farmer of Hingham, was prominent in local politics, but was unable to bestow any special advantages of education on his son, who was early intended for a mechanical employment. During his apprenticeship, his tastes led him to seek literary instruction, and to devote his leisure to the study of the Latin and Greek languages, and soon gained for him the encouragement of competent friends. He entered Harvard college in 1768, where he was graduated in 1772 with reputation for scholarship. He was a student at law under Joseph Hawley of Northampton when the battle of Lexington occurred, and immediately marched as a volunteer with the minute men to Cambridge. Admitted to the bar in the same year (1775), he commenced practice in Worcester, and his decision of character, energy, probity, and popular address soon gave him eminence. He had an extensive business, was zealous in the cause of independence, was the author of numerous patriotic appeals, and between 1775 and 1781 was successively clerk of the court and judge of probate of Worcester county. In 1779 he was specially commissioned to prosecute the claims of government to the large estates of the refugees confiscated under the absentee acts, and was commissioned

to expedite the payment of the continental tax. He was a delegate to the convention in Cambridge for framing a state constitution, and in 1781 was elected by the legislature, under the confederation, representative to the continental congress, an honor which his professional engagements compelled him to decline. In 1796 he was a member of the house of representatives, and in 1797 of the senate of Massachusetts. In 1800 he was elected a representative to the national congress, and soon after taking his seat was invited by President Jefferson to become a member of his cabinet as attorney-general of the United States; and he was provisional secretary of state during the few months preceding the arrival of Mr. Madison. Upon the reelection of Jefferson, his private interests constrained him to retire from office, and his letter of resignation was received with reluctance. "You carry with you," wrote Jefferson, "my entire approbation of your official conduct, my thanks for your services, my regret on losing them, and my affectionate friendship." In 1806 he was elected a member of the council of Massachusetts; in 1807 and 1808 he was lieutenant-governor of the commonwealth; and on the decease of Gov. Sullivan in Dec. 1808, he discharged the duties of chief magistrate from that time till the following May. In 1811 he was appointed by President Madison, without previous suggestion, an associate justice of the supreme court of the United States. Weakness of sight, which terminated in almost total blindness, rendered it necessary to decline this station, though the president pressingly urged his acceptance, and to retire from public life. A partial restoration of vision afterward enabled him to resume the cultivation of his farm and his classical studies, both of which were to him objects of passionate attachment; and with them he alleviated the infirmities of advancing years. He was one of the original members of the American academy of arts and sciences, sustained distinguished relations to other literary institutions, and from the close of the revolution to the commencement of the present century was reputed to be the head of the Massachusetts bar. In 1781 he married a daughter of Daniel Waldo, an eminent merchant of Boston, by whom he had 7 children, several of whom rose to distinguished stations. II. LEVI, LL.D., eldest son of the preceding, an American lawyer and statesman, and governor of Massachusetts, born in Worcester, Mass., Oct. 25, 1782. He was graduated in Harvard college in 1802, began immediately to study law in the office of his father, then attorney-general of the United States, and was admitted to the bar in 1805. He began to practise in Worcester, where he has since resided, and entered at once upon a highly successful professional career, being at the same time connected with the military of the commonwealth and with the political agitations of the time. Between 1812 and 1822 he was elected several times to both branches of the state legislature, was speaker of the house in

1822, and was a prominent member of the party which sustained Mr. Jefferson. In 1814 he entered warmly into the debate in opposition to the Hartford convention, and drew up the protest against that body, which was signed by 75 other members of the legislature and was widely circulated. In 1820 he was a member of the convention called to revise the constitution of Massachusetts. In 1824 he was appointed to the bench of the supreme court by Gov. Eustis. In 1825 he was selected by both the political parties as their candidate for governor of the state, and was elected with great unanimity by the people. He is believed to have been the first governor, under the constitution, who exercised the veto power. The measure which he vetoed was an act for building a new bridge between Boston and Charleston, thereby destroying the value of the existing franchise of the Charles river bridge, and a violation, as Gov. Lincoln believed, of the plighted faith of the commonwealth. In 1834 he was elected to succeed John Davis as representative in congress, and was again chosen to the 25th and 26th congresses. On the accession of Gen. Harrison to the presidency (1841), he was appointed to the office of collector of Boston, which he held till Sept. 1843. In 1844 and '45 he was again a member of the state senate, of which body he was president in the latter year. His last public office was as presidential elector in 1848, when he presided over the electoral college, excepting that upon the organization of his native town as a city he became its first mayor. He has long been an active member of the American antiquarian society, of the American academy of arts and sciences, and of the Massachusetts historical society. III. ENOCH, brother of the preceding, an American lawyer and statesman, governor of the state of Maine, born in Worcester, Mass., Dec. 28, 1783, died in Augusta, Me., Oct. 11, 1829. He entered the sophomore class of Harvard college in 1806, subsequently received the degree of master of arts from Bowdoin college, studied law with his brother Levi at Worcester, and was there admitted to the bar in 1811. He began practice in Salem, but removed in 1812 to Fryeburg in Maine, a beautiful region, high up on the bend of the Saco, within view of the White mountains. In 1816 he published "The Village," a poem descriptive of the scenery and romance of this forest town, and of the social condition of the population of the territory. The aboriginal inhabitants and their ancient haunts yet remaining in the neighborhood had special attractions for him, and long continued to be visited by him and to be the subject of his researches. He delivered a poem at the centennial celebration of the fight of Lovewell's pond; and he also made an imitation of a Penobscot song in welcome of the French, whom he always considered to have been the truest friends of the Indians. The first volume of the Maine historical collections contains valuable papers left by him on the Indian languages and the French missions in

Maine. In 1819 he removed from Fryeburg to the neighboring shire town of Paris, where he extended his professional practice and reputation, and he represented the district of Oxford in the national congress from 1819 till 1826. In the following year he was elected governor of Maine, to which office he was 3 times reelected with hardly any opposition. His proclamations were marked by a peculiar felicity and terseness of expression, and his official correspondence embraced an energetic vindication of the rights of the state in the question of the north-eastern boundary. Before completing his last gubernatorial term he declined being again a candidate, intending to live in retirement, devoted to agriculture, to the study of the classics and the natural sciences, and to literary avocations, especially to the completion of a work on the history, resources, and policy of Maine, for which he had collected many materials, and which was left unfinished in manuscript. He was through life an enthusiastic lover of rural nature. His last public performances were an oration at the ceremony of laying the corner stone of the capitol at Augusta (July, 1829), and an address at the establishment of the female seminary in that city. Suffering from illness, the performance of the latter task exhausted his strength, and he died within a few days, and was buried in front of the capitol with civil and military honors.

LINCOLNSHIRE, an E. co. of England, bounded N. by the Humber and its estuary, E. by the German ocean, S. by the counties of Cambridge, Northampton, and Rutland, and W. by those of Leicester, Nottingham, and York; area, 2,888 sq. m.; pop. in 1851, 407,322. Much of the surface is flat and low, a large portion lying below the level of the sea, from which it is protected by embankments. Since the Roman occupation vast tracts of this fenny district have been from time to time reclaimed from the sea, and constitute some of the most productive land in Great Britain. (See BEDFORD LEVEL.) The principal rivers are the Trent, Witham, Welland, and Ancholme. The soil of the fens consists chiefly of a deep loam, clay, and peat; elsewhere it is generally a rich sandy loam. The county is celebrated for the high condition of its agriculture, and for its fine breeds of cattle, horses, and sheep, as well as for the number and beauty of its ancient parish churches. It returns 4 county members to parliament. Capital, Lincoln.

LIND (GOLDSCHMIDT), JENNY, a Swedish vocalist, born in Stockholm, Oct. 6, 1821. From infancy she manifested a remarkable talent for singing, and her parents, who were in moderate circumstances, and by profession teachers of youth, were urged to allow her to be educated for the stage. At the earnest solicitation of their daughter and of Mme. Lundberg, an actress at the Stockholm theatre, they gave a reluctant assent; and by the influence of Count Pücke, the manager of the court theatre, to whom Croelius, a music teacher of Stockholm, had introduced her, Jenny gained admission

when about 9 years of age to the musical academy. Here she made such progress that at the end of a year she was deemed fitted for the stage, on which she soon made her appearance in juvenile parts, showing dramatic talents not less remarkable than her vocal accomplishments. For two years she performed to the delight of Stockholm audiences, and was giving promise of great lyric triumphs, when the upper notes of her voice became clouded and harsh, and the idea of preparing her for the grand opera was abandoned. For 4 years she remained in obscurity, forbidden to exercise her voice, and finding her chief enjoyment in studying instrumental music. When she was about 16 years of age, accident brought her upon the stage one night temporarily to assume a short and unimportant part in one of Meyerbeer's operas, and to her delight she discovered that her voice had returned to her with more than its former purity and power. The next day she was invited by the manager of the opera to assume the part of Agatha in Weber's *Freischütz*, and for upward of a year and a half she was the reigning prima donna of the Stockholm opera. Feeling, however, that her voice was not under sufficient control to enable her to take her position as a first-rate singer, she went about 1840 to Paris, and put herself under the instruction of Garcia, then the first singing master in Europe. He gave his pupil little encouragement, and although she made astonishing progress under his hands, and manifested an unusually intelligent appreciation of music, he never anticipated the triumphs she subsequently enjoyed. About a year after her arrival in Paris, however, she was introduced to Meyerbeer, in whom she found a cordial and appreciative admirer of her talents, and from whom she subsequently received an invitation to sing in the opera at Berlin. She made her reappearance upon the stage in her native city, and in 1844 first sang before a Berlin audience at the opening of the opera house, as Vielka in Meyerbeer's "Camp of Silesia." Thenceforth her reputation seemed to increase with every performance, and in Vienna and other influential musical cities she was received with great enthusiasm. In May, 1847, she made her début before a London audience as Alice in the opera of *Robert le diable*, and excited a sensation almost without a parallel in the history of the opera in England. During this season she also appeared as Marie in *La fille du régiment*, Amina in *La sonnambula*, Norma in the opera of that name, and Agatha in *Der Freischütz*. For the next 3 years she appeared repeatedly in England, Germany, and Sweden, adding meanwhile to her parts those of Lucia di Lammermoor, Adina in *L'elisir d'amore*, Susanna in the *Nozze di Figaro*, and Elvira in *I Puritani*, and showing her versatile powers in oratorios and miscellaneous concert music. In Sept. 1850, being then in the zenith of her fame, she arrived in the United States, in which she had been engaged by Mr. P. T. Barnum to make an extended professional tour, to

embrace 150 concerts. Her first concert in New York, given shortly afterward, excited an enthusiasm bordering on the wildest extravagance. The first ticket sold brought several hundred dollars, and the remaining ones commanded prices unprecedented in America. Her share of the receipts, amounting to \$10,000, was bestowed in local charities. A similar excitement attended her appearance in other cities, until, wearied by ceaseless demands upon her time, patience, and voice, she availed herself in June, 1851, of an article in her agreement with Mr. Barnum, and terminated her engagement after the 95th performance. She subsequently gave a series of concerts on her own account, and in Feb. 1852, was married in Boston to Mr. Otto Goldschmidt, a young pianist who had accompanied her during a part of her tour, and with whom she soon after returned to Europe. For several years she resided with her husband in Germany, rejecting all proposals for her reappearance upon the stage, but singing occasionally in concerts. In 1858 she removed to England, where she is now living. Her voice, a soprano, embracing a register of 2½ octaves, is not less remarkable for sweetness and purity of tone than for its sympathetic power. Her execution is equally remarkable, and in the interpretation of many varieties of music, from the oratorios of Handel to the rondos of Rossini or Donizetti, or simple national ballads, she is probably without a rival among living singers, her success being due, according to the composer Benedict, to the fact "that she makes a conscience of her art." Her private character is spotless, and her benefactions are on a princely scale. She is known to have bestowed \$50,000 in charities during her visit to the United States, and like sums in England and Sweden, beside large amounts for various private objects.

LINDE, SAMUEL GOTTLIEB, a Polish philologist, born in Thorn in 1771, died in Warsaw, Aug. 8, 1847. He was of Swedish extraction, studied at Leipsic, took part in the revolutionary war under Kosciuszko, lived subsequently for some time in Vienna, and in 1803 established himself in Warsaw. He held various literary offices under the numerous governments to which that part of Poland was successively subjected, and retired into private life in 1838. His fame rests on his "Dictionary of the Polish Language" (6 vols., Warsaw, 1807-'14), one of the greatest works of its kind, though his exclusive right to its authorship is with some a matter of doubt.

LINDEN. See BASS OR BARK WOOD.

LINDENAU, BRENNHARD AUGUST VON, a German astronomer, born in Altenburg, June 11, 1780, died May 21, 1854. In 1808 he was appointed director of the observatory at Seeberg, near Gotha. Subsequently he was for many years in the civil service of the duke of Saxe-Gotha; and in 1843 he retired from public life, and devoted himself to his favorite studies. He published "Barometrical Tables for facilitating the Calculation of Levellings and of

Measures of Height by the Barometer" (1809); *Tabula Veneris* (1810); *Tabula Martis* (1811); "History of Astronomy during the first Ten Years of the Nineteenth Century" (1811), &c. He also edited or contributed to the *Zeitschrift für Astronomie* and other scientific periodicals.

LINDLEY, JOHN, an English botanist, born at Catton, near Norwich, Feb. 5, 1799. His father cultivated a large nursery garden in Catton. At an early age the son published a variety of papers and monographs on botanical subjects, some of which appeared in the "Transactions" of the Linnean society and in Hooker's *Flora Scotica*. About 1821 he settled in London, where for many years he was employed in writing the descriptive portion of London's "Encyclopædia of Plants," published in 1829. According to the testimony of the editor, the botanical merits of the work belong principally to Lindley, who "determined the genera and the number of species to be arranged under them; prepared the specific characters, derivations, and accentuations; either wrote or examined the notes; and corrected the whole while passing through the press." While engaged upon this work, the arrangement of which was according to the artificial system of Linnæus, he became a decided convert to the natural arrangement, and in 1830 published his "Introduction to the Natural System of Botany," in which its uses and advantages are presented at length. This was followed in 1832 by his "Introduction to Systematic and Physiological Botany," and "Synopsis of the British Flora," and in 1833 by his *Nexus Plantarum*, in which the author undertook to reduce the natural orders into groups subordinate to the higher divisions. In 1846 appeared his "Vegetable Kingdom," an expansion of a work previously published under the title of "A Natural System of Botany," which in its turn was remodelled from the "Introduction to the Natural System of Botany." The "Vegetable Kingdom" is considered the most comprehensive work on the structure and uses of known plants yet published, and it has passed through several editions. Previous to the appearance of this work he published *Flora Medica* (8vo., 1838), in which full descriptions of the plants used in medical practice are given; and in conjunction with Mr. Hutton the "Fossil Flora of Great Britain," which was commenced in 1833, and published in parts. He is also the author of a number of popular treatises on botany, including "Ladies' Botany," in a series of letters; "School Botany and Vegetable Physiology," &c. The practical aim of his studies is evinced in his "Theory and Practice of Horticulture," which has passed through several editions and is highly esteemed by horticulturists, in his "Orchard and Kitchen Garden," and in his contributions to the "Gardener's Chronicle," a weekly journal, which he has edited since 1841. In the department of pomology he has published *Pomologia Britannica* (3 vols. royal 8vo., 1841), a work of great value. Since 1829 he has filled the chair of botany in

University college, London, and has lectured on his favorite science at the royal institution, and at the botanic gardens, Chelsea. He is a fellow of the royal society, and a member of the chief botanical societies of Europe and America.

LINDPAINTNER, PETER JOSEPH VON, a German composer, born in Coblenz in 1791, died in 1856. He was for many years leader of the orchestra of Stuttgart, which by his efforts became one of the best of Germany. Among his principal works are the operas of "The Sicilian Vespers" and "The Vampyre."

LINDSAY, ALEXANDER WILLIAM CRAWFORD, lord, a British author, born Oct. 16, 1812. He is the eldest son of the earl of Crawford and Balcarra, and was educated at Trinity college, Cambridge. Having made an extensive tour in the East, he published in 1838 "Letters from Egypt, Edom, and the Holy Land" (5th edition, with additional notes by the author, 1858, in Bohn's "Illustrated Library"). This was succeeded by a "Letter to a Friend on the Evidence and Theory of Christianity," and "Progression by Antagonism, a Theory involving Considerations touching the Present Position, Duties, and Destiny of Great Britain," the latter an enunciation of the new philosophical views adopted by the author. His most important work, however, is his "Sketches of the History of Christian Art," published in 3 vols. in 1847, in which he takes a survey of the various pagan and Christian schools of art, traces the development of the latter through their successive stages, and defines the distinctive character of the symbolisms of Christian art. The work contains also a full classification of schools and artists. It is written with considerable learning, and in passages rises to a high degree of eloquence. His subsequent works have been "Lives of the Lindsays" (3 vols. 8vo., 1849), a family history, but full of interest, and written with much animation; and a defence of the claim of his branch of the family to the ancient earldom of Crawford. In the latter part of 1858 he published a letter defending the aristocracy from the strictures of Mr. John Bright.

LINDSAY, or LYNDSAY, SIR DAVID, a Scottish poet, born in Garmylton, Haddingtonshire, about 1490, died at some date between 1555 and 1567. He was sent upon various embassies, and in 1548 negotiated free trade in grain with Denmark. He early incurred the hatred of the clergy by his satires, was in 1547 one of those who urged Knox to receive ordination, and his name was long popular as a Protestant champion. His principal poems are the "Dreme," "Testament and Complaynt of our Sovereign Lordes Papingo," "Complaynt of John the Commonweil," "Historie of Squyer Meldrum," the "Monarchie," and "Satyre on the Thrie Estaitis," a play directly attacking the clergy, constructed on the principle of the mysteries or miracle plays of an earlier age. According to Hallam, he displays accomplishments and scholarship superior to those of Skelton, and a more reflecting and philosophical mind than Dunbar.

Many of his productions are indecent and severely satirical. The latest edition of his works, with a life, introduction, and glossary by George Chalmers, appeared in London in 1806, in 8 vols.

LINDSEY, THEOPHILUS, an English theologian, born in Middlewich, Cheshire, June 20, 1728, died in London, Nov. 3, 1808. He was educated at St. John's college, Cambridge, received orders, and held various preferments. In 1769 he formed an intimacy with Dr. Priestley, then Unitarian minister at Leeds, the result of which, combined with doubts which he had long previously entertained, was that Lindsey surrendered his living in 1778, and made public profession of Unitarianism. He now proceeded to London, and in April, 1774, began to officiate as a Unitarian minister in a room in Essex street. After 4 years his congregation erected a chapel for him, where he continued till age and failing health compelled him to resign in 1798. Among his writings are an apology for his abandonment of Anglicanism, and several controversial and historical writings on Unitarianism. A memoir of his life, by the Rev. Thomas Belsham, was published in London in 1812.

LINDSLEY, PHILIP, D.D., an American clergyman and educator, born in Morristown, N. J., Dec. 21, 1786, died in Nashville, Tenn., May 25, 1855. He was graduated at the college of New Jersey in Princeton in 1804, and about 1807 became a candidate for the ministry in the Presbyterian church, and Latin and Greek tutor in Princeton college. While holding this office he devoted himself to the study of theology, and in April, 1810, was licensed to preach. After preaching in various places for two years, he returned in 1812 to Princeton in the capacity of senior tutor in the college, and in 1818 was appointed professor of languages and secretary of the board of trustees. In 1817 he was twice chosen president of Transylvania university, Ky., but in both instances declined the office, and in the same year he was ordained *sine titulo* by the presbytery of New Brunswick, and was also elected vice-president of Princeton college. After the resignation of Dr. Green in 1822 he was for one year the acting president, and in the succeeding year he was chosen president of Cumberland college, Tenn., now the university of Nashville, and also of Princeton college, both of which appointments he declined. After refusing to entertain overtures concerning the presidency of Ohio university at Athens, he was again offered the presidency of Cumberland college, and was finally induced to make a visit to Nashville, the result of which was his acceptance of the office in 1824. This decision was contrary to his own wishes and to those of his friends in New Jersey; but the representations of the benefit which his efforts would be likely to confer in this new field of labor proved superior to any considerations of personal comfort, and in the latter part of 1824 he removed with his family to Nashville, where for more than a quarter of a century he labored earnestly and

efficiently in the interests of education. Such was the extended reputation he enjoyed throughout the southern and western states as an educator, that during this interval he was offered the presidency of other colleges more frequently perhaps than any other man who has lived in the United States. In addition to the instances mentioned, he declined offers from Dickinson college, Penn., in 1824 and again in 1829; from Washington college, Lexington, Va., in 1829; from the university of Alabama, at Tuscaloosa, in 1830; from the university of Pennsylvania, of which he was chosen provost, in 1834; from the college of Louisiana, at Jackson, in the same year; from South Alabama college, at Marion, in 1837; and from Transylvania university in 1839. In May, 1834, he was also unanimously elected moderator of the general assembly of the Presbyterian church, then holding its sessions at Philadelphia. In Dec. 1850, he became professor of ecclesiastical archaeology in the New Albany theological seminary, which office he held until April, 1853, when he retired. A few weeks before his death he visited Nashville as commissioner of the presbytery to the general assembly, and while there was stricken with paralysis, of which he died two days after the attack. According to the testimony of Dr. Maclean, president of Princeton college, he possessed in a remarkable degree the faculty of imparting to his pupils his own ardor, and taught them to give close attention to grammatical niceties as well as to the style and sentiment of the authors they studied. As a classical scholar he was one of the most accomplished in the country; and to his acquaintance with Homer, Aristotle, and Longinus may be traced some of the characteristics of his own style. A volume of his educational discourses, the first of a series containing his complete works, with a biography, has recently been published (8vo., Philadelphia, 1859).

LINEN (Gr. λινον, Lat. *linum*, flax, linen), a fabric made of flaxen threads. The manufacture is very ancient, and no record is preserved of its early history. It was old in the time of Herodotus; and in his day linen was exported from Egypt to the ports of the Mediterranean. The ancient Egyptians, celebrated for their textile products, not only consumed the fabric largely for their own uses, but supplied it to foreign markets. Its use was particularly connected with their religious and funeral services. The priests were forbidden to enter the temples robed in other than linen garments, and the dead were always shrouded in this material. It has indeed been questioned whether the bandages of the mummies are not of cotton; but from the microscopical examinations of Dr. Ure, Mr. James Thomson, cotton manufacturer, and Mr. Bauer of Kew, England, it appears that the threads have the jointed cylindrical form of the flaxen fibre, and not the flat and spirally twisted shape of the fibre of cotton. The inner wrappings of the mummies are of coarse texture, but the outer are much finer. Some of the

work of the rude looms of the ancient Egyptians was extremely delicate; and it is probable that the "fine linen" mentioned in Scripture would compare favorably with that produced by the most perfect machines of the present time. In the British museum are specimens of mummy cloths thin and transparent like the muslins of India. Some of these even contain 270 threads to an inch in the warp, and 110 in the woof, while the finest work of the Decca looms has only 100 threads to an inch in the warp and 84 in the woof. In all the Egyptian lineens the number of threads in the warp is much greater than of those in the woof, owing to the difficulty of working in the latter when the shuttle was thrown by hand. The coarser fibres of the flax appear to have been employed by the Egyptians for nets, ropes, and sail cloth. The Greeks obtained linen from Egypt, and adopted for it the name of *οβον*, applied in that country to fine linen, as also the more general term *σινδων*; but as the cotton of India came to be also introduced into Greece, the names appear to have been applied to this product also; and finally the term *βυσσος*, byssus, supposed to be of similar origin and to designate the plant which produced the linen, came to be used with the same ambiguity. But this last word, of frequent occurrence in the Greek classics, is most commonly applicable, it is supposed, to fabrics of linen rather than to those of cotton. So Josephus used it in speaking of the garments worn by the Jewish priests; and several of the early fathers speak of byssus as an Egyptian plant, while cotton is known to have been chiefly of Indian growth. In both the Old and New Testaments the use of linen garments, by the priests particularly, is often alluded to; and the fibre, we are told, was applied to the manufacture of cords, lamp wicks, and measuring lines. From this last use of the material, *linum*, comes the word *linea*, line, as explained by Isidorus of Seville: *Linea genere suo appellata, quia ex lino fit*. Linen was in high repute among the more wealthy Romans, and it is recorded in the life of Alexander Severus, by Ælius Lampridius, that this emperor preferred that which was plain to such as was interwoven with flowers, feathers, and gold; and the emperor Carinus is stated to have extolled in high terms the linen cloths brought from Egypt, and those from Tyre and Sidon, transparent from their thinness, glowing with purple, and most precious for the perfection of their embroidered work. Pliny mentions the cultivation of flax in Elis in Greece, and describes the method of gathering, treating it by drying and steeping, again drying, then beating it, and finally combing it with iron hooks; processes similar to those now in use, and already described under FLAX. Pliny also refers to the production of flax in Spain and other parts of Europe, and states that in all parts of Gaul it was woven into sail cloth, and that in some of the countries beyond the Rhine the most beautiful apparel of the women was linen. For the culture of the crop in modern times see

the article FLAX, in which is also described the treatment to which the fibre is subjected until it is made into slivers for spinning. It was not until the machine processes of spinning and weaving cotton had been for some time in successful operation, that similar improvements were applied to the manufacture of linen. The spinning wheel and hand loom were universally employed throughout the linen districts of Europe even into the present century, affording to the females of every family the means of a most useful and genial occupation. In the quality of the fabrics the highest excellence was attained by the French and Belgians, and among commercial products the linen of Flanders and the north of Europe long maintained a high rank. Ireland, too, was celebrated for the general diffusion of the manufacture, especially among the families of the province of Ulster, and the heavy lineens of that country in the form of table cloths and sheeting have long held an important place in the general trade in this fabric. Near the close of the last century the first mills in England for spinning flax were erected in Darlington, upon plans which the French claim as having devised, though afterward, as they admit, greatly perfected by the English. This enterprise was soon followed by the establishment of other mills, and the British manufacture at last became more extensive than that of other nations. It attained the greatest prosperity in Ireland, where the manufacture is more extensively carried on than in any other country, owing, as it is asserted, to its climate being best adapted for successfully prosecuting the linen bleaching—a process much more difficult and tedious than that of bleaching cotton, conducted very much in the open air, and dependent in great measure upon the condition of the atmosphere. The machine processes of weaving and spinning are not very different from those for cotton already described. To make the slivers into yarn for thread, the tin cans containing them are brought to a drawing or spreading frame, and several slivers are united into one and drawn out, a process which may be several times repeated, as in the preparation of the cotton yarns. The drawings are then slightly twisted upon a roving frame, and wound upon bobbins to be ready for spinning. For the finer fabrics it is found necessary to increase the pliability of the fibres by keeping them moist. This is effected by means of a trough of warm water, which is arranged along the spinning frame, so that the spindle by its rapid motion shall cause a fine spray to be constantly thrown up from the surface of the water. The yarns thus prepared do not equal in fineness some of those made by hand. They are rated at so many "leas" of 300 yards each to the pound; in 1889 a common maximum was 150 to the pound, but recently they are spun of 200 to 240 leas. Such yarn is employed for Irish lawns and coarse cambrics. The finer fabrics of cambric and valenciennes require hand-spun yarns. At the great exhibition of 1851, a

specimen spun by Jane Magill, 84 years of age, was the finest (760 leas); and one by Ann Harvey of 600 leas was the most perfect in quality and spinning. To each of these a premium of £10 was awarded. The yarns are assorted into bundles, which are made up each one of 30 hanks of 10 leas each, and their quality is indicated either by naming the number of leas to the pound, or the direct weight of the bundle itself, an 8 pound bundle being one of 25 leas to the pound, and a 2 pound bundle one of 100 leas to the pound. To make linen thread, the yarns are doubled, and after bleaching the thread is wound into balls or upon spools.—In former times the sale of brown manufactured linens was conducted in the market towns (especially in Ulster) in halls set apart for the purpose; and in Armagh, Ballymena, Coleraine, Ballymony, and Lurgan the practice is still continued. These sales, however, are only of hand loom goods, the power loom productions being sold direct to the merchants. The great business in these is conducted by private contracts, and through the agency of commission houses in Belfast; and to such an extent has it increased, that a single establishment now makes little of furnishing 2,000 or 3,000 pieces of linen a week, when 50 years ago such an amount would have served the largest works for a whole year. The prices are said to be very difficult to quote, owing to the great variety of "sets" representing the fineness and the variety in the yarns used for the "set." Each large firm has its own standard of rates. The brown linens when purchased are chiefly sent to the bleach greens, where they are boiled in a lye of soda ash, and then spread to dry for 2 or 3 days upon the grass. These processes may be repeated several times until the goods are half white. (See BLEACHING.) The straw of the flax, which cannot be perfectly extracted in the scutching and cleaning, now shows itself more plainly. To remove this the goods are soaked in a bath of water containing an alkaline chloride, as of soda, and are treated, either after or before this, with dilute sulphuric acid of 2° or 8° Twaddell. The "rubbing" succeeds, which is a thorough washing by machinery, with the use of plenty of soap. When the linen is quite white it is starched, and afterward dried on steam-heated rollers. It is then ready for the "finishing" process, which is effected by machines called "beetles," or by the patent method of spreading the linens on frames in a stove house, and while they are gently stretched and carefully handled upon these exposing them to a current of air which is made to pass continually over them. A finish is thus obtained like that of linen pocket handkerchiefs. The whole time required for bleaching is from 4 to 7 weeks, according to the season and the weight of the fabric. The extreme whiteness given to some linens is often at the expense of their strength, the material being partially worn out in the operation. A fair, even shade, attainable by all intelligent bleachers, ought to suffice if it be de-

sirable to produce the best quality of goods. Linens that are not to be bleached are either finished brown, or are colored before finishing; and some are partly bleached and dyed. Many goods have lately been first bleached and then printed with fancy patterns.—Yarns, thread, and the woven fabric are all largely exported from Great Britain. In 1853 the exports of yarns were 22,898,586 lbs., valued at £1,154,977; in 1854, 17,696,567 lbs., valued at £944,503; and in 1855, 17,872,950 lbs., valued at £916,429. Of thread in the same years the value of the exports was £388,374, £315,685, and £293,819; and of linen, not including thread lace, £4,845,600, £3,769,107, and £3,808,487. Of thread lace in the same years the exports were of the value of £8,267, £7,296, and £4,451. The exports of British and Irish manufactures in the year ending Dec. 31, 1858, comprised 122,561,748 yards of linen cloths of all kinds and cambrics, valued at nearly £4,000,000; linen thread, 3,177,251 lbs., valued at £322,000; and linen yarn, 81,911,798 lbs., valued at £1,700,000. The principal seats of the manufacture in Great Britain are in and near the west riding of Yorkshire, in Lancashire, Dorsetshire, Durham, and Shropshire, in Dundee in Scotland, and Belfast in Ireland. The manufacture of linen was introduced into the United States by the establishment of a large mill in 1834 at Fall River, Mass., which has since continued in operation. The imports of bleached and unbleached linens into the United States in the year ending June 30, 1859, were valued at about \$9,000,000, of which \$6,000,000 worth was from Belgium, about \$2,000,000 from Scotland, \$500,000 from Ireland, and the rest from other countries.

LING, a European fish of the cod family, *lota lota* (Cuv.). The body is elongated, the head flat, the gape large, the lower jaw the shorter with a single barbule at the extremity; teeth in the upper jaw small and very numerous, a single larger and longer row below; scales small and firmly adherent; the dorsal fins of equal height, the first short but not pointed as in the hake, the second long, immediately behind the first, reaching nearly to the caudal, and most elevated posteriorly; anal nearly coextensive with the dorsal, and caudal rounded. The back and sides are gray, inclining to olive; the belly silvery; ventrals white, and dorsal and anal edged with the same; caudal marked near the end with a transverse black bar, and the extreme tip white. This is a very valuable species, and is caught in great numbers on the English and Irish coasts by hand and long lines; it is consumed fresh and salted, and is largely exported to southern Europe, forming an article of commerce almost as valuable as codfish; the sounds, roes, and oil from the livers are valuable, the latter for use in lamps and as an internal medicine in rheumatism. It is very prolific and voracious, feeding on any living thing coming in its way. The best time for the fishery is between January and August, and the favorite resorts are the margins of rocky valleys in the

ocean; it bites eagerly, and is readily caught. The usual length is about 3 or 4 feet.—Another species of *Ieta*, inhabiting the lakes and rivers of America from northern New York to the arctic regions, the *L. maculosa* (Leaneur), the codfish of the lakes or eel pout, is sometimes called ling in northern New England. The eel-shaped blenny (*soarces anguillaris*, Peck), of the goby family, is also called ling by the Massachusetts fishermen. Other European gadoids of the genus *motella*, with a slightly elevated and delicate first dorsal, with a barbel on the chin and 2 or 4 on the upper jaw, are called rock ling; they frequent rocky ground well supplied with sea weed; though readily taking the bait, they are not much esteemed as food unless eaten very soon after they are caught; the length varies from 10 to 15 inches; the food consists of small fishes and thin-shelled crustacea.

LING, PETER HÄREIK, a Swedish physiologist and poet, born in Ljunga, Smaland, Nov. 15, 1766, died in Stockholm, May 8, 1839. He was the son of a curate, and was left an orphan in his infancy, but his education was provided for at the schools of Wexiö, and in 1797 he passed the examination qualifying him for the theological profession. From this time he travelled over Europe, apparently with no definite object, often reduced to extreme want, yet maintaining a sturdy independence of character. His love of adventure at one time led him to take part in a sea fight against Nelson. He at last returned to Sweden, having acquired several modern languages beside a variety of other knowledge. While at Stockholm suffering from an attack of gout in the elbow, he conceived the idea of curing the complaint by exercise, and with this object learned the art of fencing. His success in this experiment led him to believe that many other diseases might also be relieved or cured by suitable combinations of movements, such as would induce the proper physiological action in the part exercised. Such was the origin of the so called kinesipathy or movement cure, a system of curative gymnastics, on the establishment of which his reputation is chiefly based. This system, now generally recognized by the faculty as a legitimate medical auxiliary, applicable especially to chronic diseases, cases of deformity, &c., is successfully practised in Sweden by Prof. Branting and Dr. Satherberg of Stockholm, Millicher in Vienna, Neumann in Berlin, Daly in Paris, Roth and Prof. Georgii in London, and Charles F. Taylor, M.D., in New York. Its practice consists chiefly in effecting certain movements by the aid of an assistant, the patient at the same time exercising his own will as directed. Thus a healthy action instead of a morbid one is induced in the part affected. Paralyzed limbs are exercised by movements caused from time to time by the assistant, until the muscles recover in part their healthy action, and are brought under the will of the patient. Care is always taken that no fatigue, pain, or over-exertion shall be experienced. Congestion

of the internal organs is treated by exercising the muscles of the extremities, while the rest of the body remains quiet. Ling also perfected several other branches of gymnastics; as the military gymnastics, including the exercises specially adapted for developing the qualities most useful to the soldier in active service. Some of these exercises, as the bayonet practice, are introduced in the regular drills of most civilized countries. Another branch of gymnastics which he systematized may be called the æsthetic, including the art of bodily expression, as practised in oratory, &c.; while another may be styled the pedagogical, the object of which is the practice of the most suitable exercises for young persons. Ling became a proficient in anatomy and physiology, and with scrupulous reference to the structure and functions of the human system he studied to produce in his practice a harmonious development of all the bodily powers. He at first supported himself by teaching the modern languages and fencing; in 1805 he was appointed professor of fencing in the university at Lund. He also lectured on the old Norse poetry, history, and mythology, and wrote dramas and many poetical essays, some of which, as the *Tivring*, are classed among the most beautiful poetical productions in the language. He still devoted himself assiduously to the study of the curative effects of certain bodily movements; and on being appointed master of fencing at the military academy at Carlberg, he was enabled to put his ideas into practical execution, after having long struggled against the indifference of others and his own poverty. In 1813 the royal central institution was established at Stockholm to be devoted to his special practice, and he was made the director. Commencing upon a small scale, it has been gradually enlarged under his own direction and that of his pupil and successor Prof. Branting, till now it affords the means of treatment for hundreds of invalids who resort to it from all countries, and to the youth of Stockholm gratuitous opportunities for going through complete courses of gymnastics. In the institution are departments devoted to instruction in physiology, anatomy, including dissection, and military training. Ling was elected member of the Swedish academy, a dignity conferred only on the most eminent, and was honored by his sovereign with the special appointment of professor and knight of the order of the north star. His "Elementary Principles of Gymnastics" was published after his death in Swedish (Upsal, 1840). Several writers have since expounded his theories, as Rothstein in his *Gymnastik nach dem System des Schwedischen Gymnasiarchen Ling dargestellt* (Berlin, 1847-'51), and in his *Die gymnastischen Freiübungen nach dem Systeme Ling's* (Berlin, 1853); M. Roth, M.D., in a work entitled "Handbook of the Movement Cure" (London, 1856); A. O. Neumann in his *Therapie der chronischen Krankheiten vom heilorganischen Standpunkte*; and Dr. Charles F. Taylor in a series of mono-

graphs published in the medical journals of New York, which are collected in a work entitled "Theory and Practice of the Movement Cure" (New York, 1860).

LINGARD, JOHN, D.D., an English clergyman and historian, born in Winchester, Feb. 5, 1771, died in Hornby, near Lancaster, July 18, 1851. His parents, who came of an old Hampshire family, were Roman Catholics, and in humble circumstances. The friendship of Bishop Talbot enabled him to be sent at the age of 10 to the English college at Douay, where he studied with brilliant success, entering the theological department in 1791. During the disturbances of the French revolution he once narrowly escaped being hanged by a mob, and soon afterward, anticipating the forcible dissolution of the college, which took place a little later, withdrew with some others of the community to England, where they formed a seminary at Crook Hall, near Durham. Mr. Lingard was ordained priest in May, 1795, and was appointed about the same time vice-president of the seminary and professor of natural and moral philosophy. A series of papers read at occasional literary meetings in this institution formed the basis of his "Antiquities of the Anglo-Saxon Church" (2 vols. 8vo., Newcastle, 1806), an enlarged edition of which appeared in 1844. In 1808 the community moved to Ushaw near Durham, where Dr. Lingard remained 8 years, having previously refused the presidency of the college of Maynooth. In 1811 he accepted the charge of a small mission at Hornby for the purpose of pursuing his studies with less interruption, and prosecuting the design which he had already formed of writing a history of England from the time of the Roman invasion. In the preparation of this work he consulted original authorities, and brought to light from regions previously unexplored a wealth of information which at once gave him a place in the foremost rank of English historians. The first part of the work was published in 3 vols. in 1819, and extended to the death of Henry VII. The reigns of Henry VIII. and Edward VI. formed the subject of a 4th volume immediately afterward; and in 1830 the work was completed in 8 vols. 4to., bringing the narrative down to the accession of William and Mary. Five other editions have appeared in England, the last in 10 vols. 8vo. (1854-'5), and 3 in the United States, the last being in 13 vols. 12mo. (Boston, 1858, and New York, 1860). The 5th London edition (1849) was thoroughly revised and corrected by the author. The style of the work is animated and dignified; and although Dr. Lingard made no attempt to conceal his religious preferences, its accuracy and general impartiality are universally admitted. Dr. John Allen attacked it in the "Edinburgh Review," Nos. xlii. and xlii.; but after the temperate "Vindication" published by Lingard in 1826 its merits were more fully recognized, and a juster criticism of it appeared in No. liii. of the same periodical. The work was translated into several foreign lan-

guages, and a special decree of the university of Paris ordered a copy of it to be placed in the library of every college in France. In the mean time Dr. Lingard had occasionally employed himself in other literary labors. In 1806 he published in the Newcastle "Courant" a series of letters on Catholic loyalty, which were subsequently reprinted in a volume, and in 1812 "Documents to ascertain the Sentiments of British Catholics in former Ages in regard to the Power of the Popes." About the same time he was engaged in a controversy growing out of the writings of Bishops Huntingford and Tomline and Lord Kenyon on the Catholic question, and a collection of his pamphlets on the subject was published under the title of "A Review of certain Anti-Catholic Publications" (1818). In 1815 appeared his "Strictures on Dr. Marsh's Comparative View of the Churches of England and Rome." In 1817 he was sent to Rome by Bishop Poynter to negotiate matters of importance. He made a second journey thither in 1825, and was treated with great distinction by Pope Leo XII., who conferred upon him a gold medal, pressed him to remain in Rome, and proposed to make him a cardinal, an honor which Dr. Lingard declined. In 1836 he published at London a "Translation of the Four Gospels," which was followed by an "Account of the Martyrs" (1839) and "Catechetical Instructions on the Doctrines and Worship of the Catholic Church" (1840). The degrees of D.D. and LL.D. were conferred upon him by Pope Pius VII. in 1821, and during the last years of his life he received a pension of £200 from the British government.

LINLEY, THOMAS, an English composer, born at Wells in 1725, died in London in 1795. After completing his musical education he established himself in Bath, where he was very successful in teaching and giving concerts. His two elder daughters, afterward Mrs. Sheridan and Mrs. Tickell, were accomplished singers, and added greatly to the attractions of his concerts. On the retirement of Christopher Smith he removed to London to take the management of the oratorios, first in conjunction with Stanley the blind composer, and afterward with Dr. Arnold. In 1775 he set to music the opera "The Duenna," by his son-in-law Richard Brinsley Sheridan, the unparalleled success of which induced him to join the latter in purchasing an interest in Drury Lane theatre, the musical department of which he conducted for many years. He was the author of 12 ballads which are considered among the finest specimens of this species of composition. His death was hastened by grief at the loss of his eldest son, Thomas, a musician of great promise and an intimate friend of Mozart.—WILLIAM, youngest son of the preceding, also a composer, born about 1767, died in 1835. He was for many years in the East India company's service, and having accumulated a handsome competency, he devoted the remainder of his life to literary pursuits and music, for which he possessed a hereditary tal-

ent. He was the author of numerous glees, canzonets, and miscellaneous pieces, distinguished by grace and feeling, and compiled the "Dramatic Songs of Shakespeare" (2 vols. fol.), in which are several of his own compositions. He also wrote two comic operas and several novels.

LINLITHGOWSHIRE, or **WEST LOTHIAN**, an E. co. of Scotland, bounded N. by the river and frith of Forth; area, 101 sq. m.; pop. in 1851, 80,135. The coast is low and the waters shoal; but there are small harbors at Queensferry, Borrowstounness, Newhalls, and Port Edgar. In the S. are extensive heaths and mooses, and elsewhere the surface is varied with knolls and undulations. The principal rivers are the Almond and Avon. Coal, limestone, freestone, and granite are plentiful, and there are several iron works at Borrowstounness. Agriculture is in an advanced state, but there are few manufactures. The principal towns are Linlithgow, Queensferry, Bathgate, and Borrowstounness. — **LINLITHGOW**, the capital, and a royal and parliamentary burgh, is situated on Linlithgow loch, and on the Union canal and the Edinburgh and Glasgow railway, 17 m. from Edinburgh; pop. in 1851, 4,213. It was a place of much importance as early as the beginning of the 12th century, and contains the ruins of a splendid palace, the nucleus of which was built by Edward I. of England, and in which Mary queen of Scots was born; it was burned by Hawley's dragoons in 1746, but steps have recently been taken to restore some parts of the building and prevent further dilapidation. There is also an ancient church, founded by David I., and now considered one of the most perfect specimens of Gothic architecture in Scotland.

LINN. I. A N. co. of Mo., drained by Locust and Yellow creeks; area, 588 sq. m.; pop. in 1856, 6,567, of whom 495 were slaves. It has a rolling surface with a fertile soil. In 1850 it produced 219,500 bushels of Indian corn, 15,570 of wheat, 24,257 of oats, 844,665 lbs. of tobacco, and 47,179 of butter. There were 5 grist mills, 3 saw mills, and 100 pupils attending public schools. Capital, Linneus. II. An E. co. of Iowa, drained by the Wapsipicon and Red Cedar rivers and Prairie and Buffalo creeks; area, 720 sq. m.; pop. in 1859, 17,720. It is well timbered, and has a diversified surface and an excellent soil. The productions in 1859 were 854,577 bushels of Indian corn, 122,360 of wheat, 62,438 of oats, 39,460 of potatoes, 806,460 lbs. of butter, 12,470 tons of hay, and 16,920 galls. of molasses from sorghum. Capital, Marion. III. A W. co. of Oregon, bounded W. by Willamette river, and drained by the Santyam, Calapooya, and Mackenzie's fork; area, about 3,000 sq. m.; pop. in 1858, 6,009. The soil along the streams is fertile. The productions in 1850 were 21,893 bushels of wheat, 1,694 of oats, 3,366 of potatoes, 34,910 lbs. of butter, and 5,055 of cheese. Capital, Albany.

LINN, JOHN BLAIR, an American clergyman and poet, born in Shippensburg, Penn., March 14, 1777, died in Philadelphia, Aug. 30, 1804. His

father having removed to New York, he pursued his preparatory studies at Flushing, was graduated at Columbia college when 17 years of age, and began to study law in the office of Alexander Hamilton. Within a year his drama of "Bourville Castle, or the Gallic Maidens," was brought out at the John street theatre, but was not successful. He took little interest in his profession, and was led to exchange it for that of the ministry in consequence of deep religious impressions. He was ordained a Presbyterian clergyman in 1798, and became assistant pastor of the first Presbyterian church in Philadelphia, where he resided from that time. His principal poem, entitled "The Powers of Genius," which appeared in 1801, evinced culture and taste, and was favorably received. Immediately after he wrote a pamphlet in answer to the comparison which Dr. Priestley had made between Socrates and Christ. A brief controversy terminating with a second reply from Dr. Priestley was the result. These publications obtained for him the degree of D.D. at an unusually early age. Soon after his death, caused by consumption, his poem of "Valerian" was published, with a memoir by his friend and brother-in-law Charles Brockden Brown. It is in blank verse, a story of religion and love in the fanciful kingdom of Montalvia.

LINN, LEWIS FIELDS, an American senator, born near Louisville, Ky., Nov. 5, 1795, died in St. Genevieve, Mo., Oct. 3, 1843. His family emigrated from Pennsylvania to Kentucky with the first settlers of that state, and in the protracted warfare with the Indians both his grandparents with 7 members of their family at different times fell victims to the scalping knife. Having been left an orphan at the age of 12, he commenced a course of self-education, subsequently studied medicine, and about 1816 established himself in St. Genevieve, Mo., as a physician. His practice became in time lucrative, and he took an active part in politics as a member of the democratic party, although he repeatedly declined to enter public life. In 1833, however, he accepted the office of commissioner to settle the old French land claims in Missouri tendered him by Gen. Jackson, and in the same year entered congress as a senator from Missouri, a position which he filled during the remainder of his life. He was a devoted personal friend of Gen. Jackson. Among the measures which he advocated were the settlement and occupation of Oregon, his bill for which, after 5 years' delay, was passed by the senate a few months before his death; and the bill to remit the fine imposed by Judge Hall upon Gen. Jackson, which he supported in an elaborate speech. In 1857 appeared the "Life and Public Services of Dr. Lewis F. Linn," by E. A. Linn and N. Sargent (8vo., New York).

LINNE, CARL VON, better known by his Latinized name **LINNÆUS**, a Swedish naturalist, born near Stenbroholt, in the province of Småland, May 24, 1707, died in Upsal, Jan. 10, 1778. His father, the Protestant minister of

the parish of Stenbrohult, was a lover of flowers, and in the well stocked garden of the rectory young Linnæus passed his leisure hours, familiarizing himself almost as soon as he could articulate distinctly with the names of the plants to be found there, as well as those indigenous to the neighborhood. Notwithstanding this manifest predilection for botany, his father, whose circumstances were far from easy, designed him for the ministry, and at 10 years of age Carl was sent to the academy at Wexiö. Here he read with eagerness whatever works on physical science, and particularly on natural history, came within his reach, but made such limited progress in the studies applicable to his intended profession, that the teachers, conceiving a contempt for his intellectual abilities, advised his father to make a carpenter or tailor of him. Fortunately for young Linnæus, Dr. Rothmann, a physician of Wexiö, who had noticed his enthusiasm for botany, prevailed on the father to allow him to study medicine and natural history; and to render the scheme practicable, he received the boy into his own house, and instructed him in physiology, and in botany according to the system of Tournefort. In 1727 he repaired to the university of Lund, where for a year he was an inmate of the family of Dr. Stobæus, professor of physic and botany, with whose approbation he finally surrendered his whole time to the study of botany. Following the advice of Rothmann, he went in 1728 to the university of Upsal in the hope of finding some kind of employment there. In this he was disappointed, and he was obliged to return to the study of medicine. His situation now became pitiable in the extreme; for months he was frequently in want of food and clothing, and the lectures of Rudbeck, the professor of botany, tormented him with the desire to resume his favorite study. One day during this season of destitution he was observed by Dr. Olaf Celsius, professor of divinity, intently examining a plant in the university garden, and upon being questioned answered with so much readiness and intelligence that he received a proposal from Celsius to assist him in a work on the plants mentioned in Scripture. At the same time he became an inmate of the professor's house, where a library rich in botanical works was open to him, and was introduced by his protector to Rudbeck. The latter being prevented by the infirmities of age from discharging fully the duties of his office, Linnæus was occasionally deputed to lecture in his place, and acquitted himself with so much credit in this capacity, that in 1731 he was commissioned by the royal academy of sciences in Upsal to make a botanical tour of Lapland. Departing in May, 1732, he performed, mostly on foot, a journey of nearly 4,000 miles within 5 months, in the course of which he thoroughly explored the desolate region assigned to him. The result of this journey was his *Flora Laponica*, published 5 years afterward. He was poorly requited for his labors by admission to the

academy of sciences and a grant of about \$50 in money; and to provide for his necessities he commenced a course of lectures in the university on the assaying of metals. A Dr. Rosen, professor in the university, jealous of the rising fame of Linnæus, successfully interfered to prevent him from lecturing; and the young naturalist, finding all hope of advancement in Upsal cut off, established himself in Dalecarlia, where he instructed the copper miners in the processes incidental to their occupation. At Falun he formed an attachment for a daughter of Dr. Moræus, a physician of the place, aided by whom he repaired in 1735 to Holland and took the degree of M.D. at the university of Harderwyk. In the same year he published the first sketch of his *Systema Naturæ*, in the form of tables, in 14 pages folio. In Holland he was warmly received by the eminent naturalists of that country, and soon numbered among his friends Boerhaave, Burmann, and Gronovius, by whom he was urged to settle there. At Amsterdam he made the acquaintance of a banker of scientific tastes named Clifford, who possessed a magnificent country seat and a garden stored with rare plants at Hartecamp, near Haarlem. At the invitation of this gentleman Linnæus took up his residence at Hartecamp, and in the course of the next two years devoted much time to the arrangement of its collections of natural history, and of the plants in the gardens and herbarium. In the interval he visited England at the expense of his patron, and was well received by some of the chief naturalists, including Dillenius and Martyn, professors of botany at Oxford and Cambridge. The period of his residence in Holland was one of extraordinary application; and, aided by the extensive library at Hartecamp, he completed several important botanical works, which his previously unsettled life had not permitted him to pursue uninterruptedly. Among these the *Systema Naturæ*, of which 18 editions appeared in the author's lifetime, and the *Genera Plantarum* (8vo., Leyden, 1737), hold the first place, the latter being memorable for unfolding with particularity the celebrated artificial system called after the author, and founded on the sexual parts of plants. The idea of classifying plants after this method had however been broached by him as early as 1731 in his *Hortus Uplandicus*. The *Genera Plantarum* is a monument of industry and application, the author having, in preparing it, examined the characters of 8,000 flowers. Among his other important works of this period were the *Fundamenta Botanica* (Amsterdam, 1736; 8th ed., Paris, 1774); *Bibliotheca Botanica* (Amsterdam, 1736); *Flora Laponica* (Amsterdam, 1737); *Critica Botanica* (Leyden, 1737); *Hortus Cliffortianus* (Amsterdam, 1737), a magnificent work, prepared in honor of his benefactor, whose collections it describes; and the *Classes Plantarum* (Leyden, 1738). Wearying finally of the drudgery of his life at Hartecamp, Linnæus returned in the summer of 1738 to Sweden, having first paid a short visit to

Paris, where he met a cordial reception from the Jussieus, and was elected a member of the academy of sciences. He was soon after married to the lady to whom 5 years previous he had been betrothed, and established himself in Stockholm as a physician. Notwithstanding the fame he had acquired abroad as a naturalist, his countrymen failed at first to recognize his merits, and his early efforts to obtain practice met with so little encouragement that he was at one time on the point of quitting his native country. His energy was equal to any emergency, however, and within a year he was appointed physician to the fleet and president of the newly established royal academy of Stockholm. The botanical chair at Upsal had always been the chief object of his ambition, and in 1741 he was enabled by his appointment as medical professor at the university to perform the functions of the former office, his old opponent, Rosen, who had succeeded Rudbeck, consenting to an exchange of duties with him. Before entering upon his professorship he made a scientific survey of the islands of Oeland and Gottland in the Baltic, the reflections and observations resulting from which were embodied in a Latin oration "On the Necessity of Travelling in one's own Country," which he pronounced before the university upon being inaugurated into office. Placed now in a situation in which his talents could be properly developed, he soon made the botanical chair of Upsal the most famous in that department of science in Europe, and students flocked from all parts of the continent, from the British isles, and even from America, to receive his instructions. Many of these, including Loeffling, Osbeck, Solander (who accompanied Capt. Cook on his first voyage as naturalist), Kalm, Hasselquist, and others, became scarcely less distinguished than their master, and by their explorations in both hemispheres, undertaken at his suggestion, greatly advanced the cause of science. Strangers were even attracted to Upsal solely to see and converse with Linnæus; and so great was the enthusiasm for the study of natural history, that the king and queen of Sweden had their separate collections of rarities, which were arranged and described by him. The academical garden, which had been for many years neglected, became one of the first objects of his attention, and within 6 years he increased the number of exotic plants from 50 to 1,100, beside adding largely to the Swedish plants which it contained. Distinctions of all kinds were showered upon him. He received the much coveted appointment of botanical professor, and in 1746 the rank and title of archiater; in 1757 he was ennobled and took the title of Von Linné; the chief learned bodies of Europe enrolled him among their members; and the king of Spain endeavored in vain, by the offer of a liberal salary and letters of nobility, to induce him to settle in Madrid. His material prosperity kept pace with his fame, and during the last 20 years of his life his leisure hours

were passed in ease and affluence at a country seat purchased by him at Hammarley near Upsal. His literary and scientific labors were pursued with untiring energy, and from all parts of the world he was constantly receiving rare specimens of animals, plants, and minerals to add to the rich collections of the university, and to enable him to perfect and systematize the results of his former inquiries. His chief publications after his establishment at Upsal comprise the *Flora Suecica* (Leyden, 1745); *Animalia Suecica* (Stockholm, 1745); *Fruita Suecica Regni* (Stockholm, 1746); *Hortus Upsaliensts* (Stockholm, 1748), a description of the academical garden; *Amanitates Academicæ* (Leyden, 1749-'77), a collection of treatises on various subjects bearing the names of his pupils, but inspired and revised by himself; *Materia Medica Regni Vegetabilis* (Stockholm, 1747); *Materia Medica Regni Animalis* (Upsal, 1750); *Philosophia Botanica* (Stockholm, 1751; 4 other editions appeared in the lifetime of the author), the principal work on the Linnæan system of botany, and that from which many popular introductions have been compiled; and the *Species Plantarum* (2 vols. 8vo., Stockholm, 1753), the author's most important contribution to scientific literature. In this last work, which Haller calls *maximum opus et æternum*, he first adopted trivial names expressing some obvious character to designate species, thus dispensing with the clumsy and tedious descriptions which naturalists formerly employed, and rendering it possible to speak of every known plant in two words. So highly is the work still esteemed that an edition of it, together with the *Genera Plantarum* and other writings of Linnæus in the form in which he left them, was published in Leipsic in 1840, under the title of *Codex Botanicus Linnaeanus*, collated by Dr. Hermann E. Richter. A similar improvement was carried out in other branches of natural history, his works upon which, though less important than those devoted to botany, are characterized by the same lucid classification and logical precision. In 1774, while lecturing on botany, he experienced an attack of apoplexy, which incapacitated him for the active discharge of his professional duties. Two years later a second attack paralyzed his right side and impaired his faculties, and the few remaining months of his life were passed in mental darkness, which the sight of flowers and opening buds and other familiar and beloved objects could never wholly dispel. His death was the signal for a general mourning in Upsal; a medal was struck and a monument erected to his memory, and the king of Sweden pronounced a panegyric upon him in a speech from the throne to the assembly of the states.—The sexual or artificial system of Linnæus, though generally adopted soon after its promulgation, has failed to stand the test of time, and has long been replaced by the natural one of Jussieu, DeCandolle, and their followers; but it accomplished a useful purpose in reducing to order the chaotic

state in which classification in all branches of natural history was involved, and was applicable to the comparatively few plants then known to naturalists. It does not appear that the author regarded it otherwise than as a temporary expedient. As a promoter of the study of botany, and indeed of all the principal branches of natural history, his merit was transcendent, and the enthusiasm and the systematic spirit of inquiry with which he imbued his pupils raised botany within a brief period to the position of an almost perfected science. In stature he was diminutive, with a large head, and quick, piercing eyes. His temper was irascible, but he was easily appeased, and his relations with his pupils and scientific associates appear to have been on an agreeable footing. He was vain to excess, and is said, at the instigation of his wife, a woman of profligate character, to have persecuted his only son. Five children survived him, one of whom, Elizabeth Christina, inherited much of her father's genius. She was the first naturalist to observe the inflammability of exhalations of certain plants, and also the electric sparks to be drawn from the nasturtium. The son succeeded his father in the botanical chair at Upsal, but was not distinguished by discoveries. The family is now extinct.

LINNET, the name of several birds of the finch family, of the genus *linota* (Bonap.) or *agiothus* (Cab.); the distinguishing characters have been given under FINCH, in the genus *fringilla* of which they are placed by Gray. The common brown linnet of Europe (*L. canabina*, Selb.) is about 5½ inches long, with an extent of wings of 10 inches; the bill is moderately thick, the head small, the body ovate, the wings and tail moderate, and the tarsi very short and much compressed. In the adult male the winter plumage is reddish brown above with darker streaks, the throat yellowish gray streaked with brown, the forehead and breast reddish with yellowish gray edgings, and the bill dusky above; in the female the upper parts are streaked with dusky brown and grayish yellow, the lower yellowish gray with brownish streaks on the throat, breast, and sides; the young resemble the female. In summer the throat is whitish with brown streaks, the back and wing coverts reddish brown, with the forehead and breast rose red. This is the largest and most robust of the true European linnets, and one of the most lively; it is called brown, gray, or rose linnet, according to the season of the year and the sex. Toward winter they assemble in flocks and visit farm yards in search of seeds, sometimes in company with other finches; the flight is rapid and undulated, and the motions on the ground active; the song is soft and mellow, and so varied and sweet as to render them great favorites as cage birds. They are easily raised from the nest, and eat the same food as the canary, with which as well as with the goldfinch they will pair. The nest is usually in a bush, very neatly made, and the eggs, 4 to 6, are ¼ of an inch

long, bluish white with purplish and reddish brown spots especially at the larger end; there are commonly two broods in a season, the first being abroad by the end of May. As their name imports, they are very fond of the seeds of flax. The mountain linnet or twice (*L. montana*, Selb.) resembles the preceding, but is smaller, with a yellowish bill, and without any red on the head and breast or streaks on the throat. The green linnet has been described under FINCH.—There are two linnets common to northern Europe and America, the lesser and the mealy red-poll linnet, referred, as above stated, to the genus *agiothus* (Cab.). The lesser red-poll linnet (*A. linaria*, Cab.) is 5 inches long and about 9 in extent of wings; these reach to the middle of the deeply forked tail. The color above is light yellowish, with dark brown streaks; the crown crimson, and the upper breast and sides tinged with the same; rump and under tail coverts still lighter with dusky streaks; rest of under parts white, streaked with brown on the sides; lores and chin dusky; cheeks and narrow front whitish; wing and tail feathers edged with white; 2 yellowish white bands across the wing coverts; bill yellowish; this is the winter plumage, there being much more red in the spring. It is a lively, familiar, and favorite bird; the flight is peculiarly buoyant, and the notes clear and loud; in the winter large flocks resort to the woods of birch and alder, on the seeds of which it feeds. It is often kept as a pet in Europe for its lively and gentle disposition; it pairs with the canary and goldfinch. It is distributed generally over the northern and temperate parts of Europe and eastern North America, going south in winter, and is found as far west as Washington territory. The mealy red-poll linnet (*A. canescens*, Cab.) is 6 inches long; the colors are as in the preceding species, but the edges of the feathers are paler and hoary, the rump grayish white, and the lower parts nearly white. It inhabits Greenland and the northern portions of the continent, and doubtless occasionally wanders within the limits of the United States, as it does into Great Britain.—The bird commonly called linnet by dealers in New England is the purple finch (*carpodacus purpureus*, Gray), described under FINCH.

LINSEED OIL, or FLAXSEED OIL, an oil expressed from the seeds of flax, and very extensively employed in the arts, its drying quality adapting it for use in the preparation of paints for woodwork and other surfaces. Thus employed, it makes with the powdered substance called the body a paste, and on drying acts both as a cement and a varnish. The seeds, either in their raw state or roasted, are ground in mills, and the powder is then subjected to powerful hydraulic pressure. By roasting, the gummy matter in the interior coating of the seeds is destroyed, and the oil is obtained more free from mucilage, but it is of higher color and more acrid than that expressed from the raw seeds. The latter is to be preferred when the

oil is required for medicinal purposes, being employed sometimes as a laxative, and as an external application in combination with lime water for burns. Linseed oil freshly pressed is of a golden yellow color, which turns to dark brown with age. It has a peculiar smell and disagreeable taste. Its specific gravity is 0.940. At 600° F. it boils, and at about zero, or 4° below, it solidifies. Exposed a short time to the air, it becomes rancid; but on being agitated with warm water and allowed to stand till the two fluids separate, the oil may be decanted sweet. Its chemical composition, according to Sacc, is that of an oleate and margarate of glycerine, containing no stearate. Beside the uses already named for this oil, it is largely applied in the manufacture of varnishes as a vehicle for the harder resins, to which it imparts softness and toughness. But for the best varnishes it is necessary to clarify the oil by repeated skimming while it is allowed to simmer at nearly the boiling point, afterward boiling it with calcined magnesia, and letting it stand at least 3 months for the impurities to subside with the magnesia. A cheap varnish is also made by adding litharge and red lead to the boiled oil.—Linseed oil is an important commercial product, and is largely imported into the United States from Europe. The English import the seed from the East Indies, Russia, Germany, Holland, and America; the value of the importations in 1856 amounted to £3,195,634. From this they obtain the oil, and make of the residue, called oil cake, an important article of food for cattle. This incidental product of the manufacture of linseed oil is also largely used for the same purpose in the United States.—As the chief use of linseed oil is in decorative painting for the sake of its drying quality, it is essential that it should be free from mixture with other oils of a different nature, and from all other foreign ingredients possessing properties incompatible with this application. It is unfortunately the case, particularly with seed obtained from tropical regions, that other oleaginous seeds of plants that have grown up with the flax are intermixed with those of the latter; and the oil they furnish not possessing the same drying character, the product is thereby seriously impaired. When such compounds are applied in paint work, the effect is most unsatisfactory; while the linseed portion dries, the other oil remains partially fluid and sticky, and moreover subject to changes of color as it oxidizes, producing a mottled and streaked appearance by the irregularity of the chemical changes that take place. It is stated that in the boiling process, which is deemed essential, empyreumatic compounds are generated, which are still more injurious to the color and stability of the paint work; and the drying quality of the linseed portion of the oil is itself impaired by the chemical union induced with the foreign ingredients. But linseed oil is moreover intentionally adulterated, as with common rosin dissolved in it, also with rosin oil, and with va-

rious fats and non-drying oils. The effect of rosin is to render the paint when apparently dry easily affected by warmth, even that of the hand, so as to be softened and made sticky. Great injury has been occasioned to silk dresses and cloth coats by being brought in contact with paint thus adulterated. The common methods of testing linseed oils are very unsatisfactory. The hydrometer and oleometer, which determine merely their specific gravity, afford no indication of the qualities or relative proportions of the adulterants. To detect the presence of rosin or rosin oil, it is sufficient to heat a small portion in a porcelain cup, when the peculiar odor of the substance will be noticed if only $\frac{1}{10}$ part be present. To detect the presence of fats or non-drying oils, the practice is to touch the centre of a drop or two of the oil placed upon a white plate with a drop of sulphuric acid conveyed at the end of a glass rod; changes of color are thereby induced, and the formation of concentric rings of various shades, which suggest to an experienced eye the nature of the oil and of its adulterations. More perfect methods of testing linseed oil are very much to be desired; and still more desirable is some efficient remedy against the production of the injurious mixtures, or some means of purifying the mixed article. For the one purpose it is thought some mechanical method might be devised of sorting the seed, so that the genuine only should be used; and for the latter some chemical processes are wanted, by which the drying oils can be separated from the non-drying, or the effect of the latter in the mixture be destroyed.—The rapid increase in the manufacture of linseed oil in the United States has given a great stimulus to the trade and importation of the seed from Calcutta and other places. In 1856 the importation into Boston was 1,387,944 bushels, valued at \$1,841,719. The whole foreign supply brought to the United States was 1,696,294 bushels, of which 1,691,876 bushels were from the East Indies. The imports of linseed oil in the same year, chiefly from England, were about 1,300,000 gallons, valued at nearly \$700,000. The value of the linseed imported into the United States in the year ending June 30, 1859, chiefly from the British East Indies, amounted to nearly \$2,500,000.

LINTZ, or LINZ, the fortified capital of Upper Austria, beautifully situated at the confluence of the Traun and Danube, distant by steamboat about 100 m. W. from Vienna and S. E. from Ratibon, and by railway about 50 m. S. from Budweis and 40 m. N. E. from Gmunden; pop. about 80,000. It has 2 suburbs, one of which is separated from the city proper by the Danube. The defences consist of 32 detached forts, which cover a circuit of 9 m., and communicate with each other by covered ways. Woollen, linen, silk, and cotton goods are manufactured. There are two annual fairs, each of which lasts a fortnight. The city and vicinity are celebrated for beautiful scenery.

LION (*leo*, Leach, and *felis leo*, Linn.), the

largest and most majestic of the cat family, an inhabitant of Africa and Asia. Several species are made by some zoologists, and these are even elevated into a genus distinct from *felis* by Leach; but the specific distinctions are doubtful, and it is more consonant with the prevailing tendency of naturalists to consider these as varieties of a single species. The best known variety is the African lion, whose great strength, noble appearance, and assumed magnanimity have been the theme of travellers from time immemorial; the males have a long and thick mane, which gives an appearance of nobleness to the animal which it is far from possessing; the tail has a tuft at the end, which is absent in the tiger and the various spotted cats; the usual color is tawny, with the mane dark approaching to black; in some the color is much lighter, and in others darker, and there is considerable difference in the amplexness of the mane, but the color is always uniform and without spots; the females are destitute of mane. The average length of a full-grown lion is between 6 and 7 feet, exclusive of the tail, and the height at the shoulder nearly 3 feet; specimens are on record considerably larger than this. The chest and shoulders are broader and the neck thicker than in any others of the family, indicating great strength in the anterior extremities; it can carry off a good-sized heifer with ease, and can drag to a considerable distance an ox or a horse. The lioness is smaller than the lion, with more slender and graceful form, and is more agile in her movements and impetuous in her passions. The appearance of the lion when in confinement or unannoyed does not convey the idea of ferocity inspired by the tiger, and his wide forehead, overhanging brow, and shaggy mane give him a majestic look which well entitles him to the appellation of "king of beasts;" but when irritated, there is sufficient evidence that the passion and power of the feline race in him reach their greatest development. In ancient times the lion was far more extensively distributed than at present. They abounded in S. E. Europe, and Herodotus relates that the camels which accompanied the army of Xerxes were attacked by lions while on the march through Macedonia. Pausanias also speaks of lions as inhabiting the mountains between Macedonia and Thessaly. From the Scriptures it is evident that lions were once common in Syria and Palestine, where they are no longer found; and they have also disappeared from other parts of Asia which they formerly inhabited. Their abundance in ancient times is shown by the fact that in 40 years 1,000 lions were killed at Rome in the amphitheatres, where sometimes 100 at a time were exhibited in the arena. The advance of population and civilization, and especially the general use of firearms, have caused their extermination in many countries, and are gradually driving them into narrower limits. At the present day they are found only in Africa and in Arabia, Persia, India, and on the banks of the Euphrates. In Africa there are 4 varie-

ties, the Numidian lion or lion of Barbary, the lion of Senegal, and two varieties of the Cape lion or lion of South Africa. The Barbary lion is brown, and the male has a very thick mane. The Senegal lion is of a yellow hue with a thinner mane. Of the two varieties of the Cape lion, one is yellowish and the other brown, and it is said that some with black manes have been seen in that region. The lion prefers an open level country, such as affords pasture to the immense herds of antelopes, well watered, and with sufficient thicket to shelter him from the midday sun; a favorite haunt is about some spring, where he can easily procure prey as they come to drink. When not pressed by hunger, the lion generally lies concealed during the day, feeding at early dawn and evening, but occasionally prowling during the whole night around the herds of wild animals, the flocks of the inhabitants, or the encampment of the traveller; skulking from man in the daytime, at night he becomes bold, tearing a bullock or a horse from the enclosure, and sometimes dragging a human victim from the midst of a sleeping circle around a watch fire; his most frequent prey, however, are the various kinds of antelopes, zebras, gnus, giraffes, and wild cattle; the horse is believed to be specially relished by the lion. The breeding place is generally in some deep cover, which is carefully guarded by both parents; gestation is about 110 days, and from 2 to 4 young are produced at a time, born with eyes open, but helpless for some weeks; the female is exceedingly ferocious when taking care of her young. Several lions have been born in menageries both in Europe and America, many of which have been raised, though most die at the shedding of the milk teeth, if not in the first few weeks of life, from the neglect of the mother or her inability to supply proper nourishment; the whelps have a frizzled fur, brindled or clouded with dark brown, and with a dark dorsal line; the shaggy mane and tufted tail begin to appear about the 8d year, attaining their full development in the 7th or 8th; the average age of the lion is about 25 years, though individuals have lived in confinement much longer than this. As seen in menageries, the lion is one of the most tractable of the large *felina*, and shows gratitude and attachment to those who treat it kindly; it is susceptible of being trained to perform certain feats, and to permit familiarities with its formidable jaws and claws which make the spectators shudder; whipping, pulling open the jaws, and placing the head within the range of their teeth, evince a rash courage in their keepers which few but a Van Amburgh or Driesbach would care to imitate. The lion of the menagerie is a very different animal when seen in his native wilds; hunting it in Africa is not a very dangerous sport for men of nerve, though it is rarely indulged in for the mere sake of sport unless by a Gérard or a Cumming. The natives occasionally assemble to destroy it, when their flocks have suffered severely; on these

occasions the animal is worried in the daytime, when it is timid and unable to see very clearly, or when satiated with food, by a motley assemblage of dogs and men, and is generally easily killed if the hunters have the courage to approach within gun-shot. Dr. Livingstone, though he has had sufficient reason for dreading the king of beasts, speaks of him in a manner which detracts greatly from his regal and magnanimous character; according to him, the lion fears man, except at night, and never attacks him unless from necessity, a "man-eater" being always an old animal, whose decaying teeth force him to come to the villages in search of prey; seen in the daytime, he finds nothing very majestic in its appearance, but merely an animal somewhat larger than the largest dog, partaking very strongly of the canine features, and very unlike the usual representations; it stands a second or two gazing, turns and walks slowly away for a dozen paces, looking over the shoulder, then begins to trot, and, when nearly out of sight, bounds off like a greyhound. By day there is not, as a rule, the smallest danger of lions which are not molested attacking a man, nor even on a clear moonlight night, unless during breeding time; travellers always tie up their cattle and horses on dark rainy nights, but not on moonlight ones. The approach of the lion is stealthy, and any appearance of a trap will prevent his making a spring. Lions are abundant where game is plenty; 6 or 8, probably one family, occasionally hunt together. Livingstone says: "One is in much more danger of being run over when walking in the streets of London, than he is of being devoured by lions in Africa, unless engaged in hunting the animal." As to the roar of the lion, he says that in a dark and stormy night and in an exposed situation it might inspire fear, but not otherwise, and that the ostrich makes a noise as loud and with difficulty distinguishable from it; as to his prowess, a large buffalo is more than a match for him, as a single toss would disable him; lions never approach a full-grown elephant, and rush off at the very sight of a rhinoceros. Gordon Cumming does not write so disrespectfully of the king of beasts, but is delighted with his noble appearance, regards his roar as extremely grand and powerful, and from personal experience considers lion hunting under all circumstances decidedly a dangerous pursuit. He says, in his "Hunter's Life in South Africa:" "There is something so noble and imposing in the presence of the lion, when seen walking with dignified self-possession, free and undaunted, on his native soil, that no description can convey an adequate idea of his striking appearance. The lion is exquisitely formed by nature for the predatory habits which he is destined to pursue. Combining in comparatively small compass the qualities of power and agility, he is enabled, by means of the tremendous machinery with which nature has gifted him, easily to overcome and destroy almost every beast of the forest, however superior to him in weight and stature.

Though considerably under four feet in height, he has little difficulty in dashing to the ground and overcoming the lofty and apparently powerful giraffe, whose head towers above the trees of the forest, and whose skin is nearly an inch in thickness. The lion is the constant attendant of the vast herds of buffaloes which frequent the interminable forests of the interior; and a full-grown one, so long as his teeth are unbroken, generally proves a match for an old bull buffalo, which in size and strength greatly surpasses the most powerful breed of English cattle; the lion also preys on all the larger varieties of the antelopes, and on both varieties of the gnu. The zebra, which is met with in large herds throughout the interior, is also a favorite object of his pursuit. Lions do not refuse, as has been asserted, to feast upon the venison that they have not killed themselves. I have repeatedly discovered lions of all ages which had taken possession of, and were feasting upon, the carcasses of various game quadrupeds which had fallen before my rifle. The lion is very generally diffused throughout the secluded parts of southern Africa. He is, however, nowhere met with in great abundance, it being very rare to find more than three, or even two, families of lions frequenting the same district and drinking at the same fountain. When a greater number were met with, I remarked that it was owing to long protracted droughts, which, by drying nearly all the fountains, had compelled the game of various districts to crowd the remaining springs, and the lions, according to their custom, followed in the wake. It is a common thing to come upon a full-grown lion and lioness associating with three or four large ones nearly full grown; at other times, full-grown males will be found associating and hunting together in a happy state of friendship; two, three, and four full-grown male lions may thus be discovered consorting together."—The Asiatic variety of the lion is inferior in size, strength, and fierceness, with less ample mane, of a uniform pale fawn color, and with less width of head and nobleness of bearing. Lion hunting in Asia is attended with great pomp and show, and with comparatively little danger on account of the open nature of the districts infested by them, and the consequent fair mark they present to the bullet; occasionally, an enraged and wounded animal gives evidence of his strength by pulling the largest elephants to the ground, to the great peril of his riders. The maneless lion of Guzerat, described by Captain Smee, is probably a variety of the preceding.—Cuvier and others describe a fossil lion (*F. spelæa*) as occurring in the caverns of the diluvial epoch in Europe as far north as Great Britain; some of the fragments found indicate an animal one fourth larger than the existing lion; their remains are found with those of bears and hyenas in the caverns of Kirkdale and Gaylenreuth, though less abundant than those of the last two animals.

LIPARI ISLANDS (anc. *Æolia* or *Liparæ insulæ*), a group of volcanic islands situated

between lat. 38° 20' and 38° 55' N. and long. 14° 15' and 15° 15' E., and between the W. coast of Naples and the N. coast of Sicily, from which they are distant from 10 to 40 m.; aggregate pop. about 22,000, including the town of Lipari. The islands form part of the Sicilian province of Messina, and the 7 principal of them are Lipari, Vulcano, Stromboli, Salini, Panaria, Felicudi, and Aliondi, beside many adjacent islets and rocks. They are all mountainous; the climate is salubrious and the air pure, and the principal products are fruits, wine, cotton, corn, peas, beans, &c. Storms and earthquakes are frequent.—**LIPARI** (anc. *Lipara*), the largest of the islands, is about 18 m. in circuit, and supplies Europe with pumice stone, of which its surface is almost wholly composed. None of the islands except Lipari appear to have been anciently inhabited to any extent. At the commencement of the 2d Punic war a Carthaginian squadron was wrecked on the shores of Lipari and the island of Vulcano. Lipari was prosperous under the Romans, and was sometimes used as a place of exile for political offenders. It was much frequented for its hot springs, one of which still remains in use.—**LIPARI**, the capital of the above group of islands, is situated on the E. coast of Lipari island, in lat. 38° 27' 56", long. 14° 57' 50", with a harbor nearly 2 m. in circuit; pop. about 12,000. It has an active trade in the produce of the islands with Palermo, Messina, and Naples. It contains a castle, a bishop's palace, several churches and convents, a hospital, and some remains of antiquity. The greater part of the present fortress was built by Charles V., after the town had been plundered by Khair-ed-Deen Barbarossa in the middle of the 16th century.

LIPPE, or **LIPPE-DETMOLD**, a German principality, bounded N. E. by Hesse-Cassel, E. by Hanover and Pyrmont, and on all other sides by Westphalia; area, 400 sq. m.; pop. in 1858, 106,086. It is traversed by chains of the Teutoburg mountains, called here *Lippe'scher Wald*. The staple productions are flax and timber. The principality comprises the counties of Lippe, Schwalenberg, and Sternberg, and several places in Westphalia, and is governed by Prince Paul, who succeeded his father in 1851. It has formed part of the German confederation since 1815. In 1848 a new constitution was promulgated, but the former and less liberal one was restored in 1853. The revenue and expenditures in 1856-'7 were respectively 450,000 Prussian thalers, and the public debt 350,000. The military force consists (1860) of about 1,000. Capital, Detmold.

LIPPE-SCHAUMBURG. See **SCHAUMBURG-LIPPE**.

LIPPI, **FRA FILIPPO**, an Italian painter, born in Florence in 1412, died in Spoleto in 1469. He was of obscure parentage, and at an early age found refuge in the convent of the Carmelites in Florence, where he was induced by poverty to assume the habit of the order. According to Vasari, he was a pupil of Masaccio.

Impelled partly by a passion for his art, partly by a love of pleasure, he escaped to Ancona when 17 years old, and renouncing his sacred profession, established himself as a painter. While on a sea excursion near Ancona, he was captured by a Barbary corsair and carried into captivity in Africa. Happening one day to draw a sketch of his master in charcoal, the latter was so much pleased with the performance that he released him and sent him home. Fra Filippo visited Naples and Rome, gaining, in spite of the scandal attached to his history and profligate life, so much celebrity that the Medici family recalled him to Florence. Under their protection the runaway monk remained secure, although he made no attempt to conform to the vows he had previously taken, but spent the money obtained for his pictures in the grossest pleasures. In 1459, while engaged in painting the walls of the convent of Santa Margherita in Prato, he seduced a young novice, named Lucrezia Buti, who had sat to him as a model, and carried her away from the convent—a crime which it needed all the influence of the Medici to prevent the community from punishing summarily. A dispensation was finally procured from the pope to enable Fra Filippo to marry Lucrezia; but as he neglected to do so, her family contrived, it is said, to have him poisoned. He is generally considered one of the greatest of the painters before Raphael, and was one of the first to design the human figure of the size of life, and to paint landscape backgrounds with some feeling for nature.—**FILIPPINO**, the natural son of the preceding by the novice Lucrezia Buti, born in Florence in 1460, died in 1506. He followed the profession of his father, though free from his libertine tastes, and was among the first to introduce ornamental accessories from the antique into pictures. He holds a respectable position among the painters of his time.

LIPPINCOTT, **SARA JANE** (**CLARKE**), an American authoress, born in Pompey, Onondaga co., N. Y. Much of her childhood was passed in Rochester, N. Y., and at the age of 19 she removed with her father to New Brighton, on the Beaver river, Penn., about 80 miles below Pittsburgh, where, with the exception of a visit to Europe in 1852, she resided until her marriage, in Oct. 1853, to Mr. Leander K. Lippincott of Philadelphia. She published occasional verses at an early age under her own name; but her first prose writings, contributed in 1844 in the form of a series of letters to the "New York Mirror," appeared under the *nom de plume* of "Grace Greenwood," by which she is still generally known. Two series of "Greenwood Leaves," comprising portions of these letters, were published in 1850 (12mo., Boston). Among her other works are: "History of my Pets" (18mo., Boston, 1850); "Poems" (12mo., 1851); "Recollections of my Childhood" (1852); "Haps and Mishaps of a Tour in Europe" (12mo., 1854); "Merrie England" (16mo., 1855); "Stories and Legends of Travel and

History for Children" (16mo., 1858), and "Stories from Famous Ballads" (1860). She is now engaged in editing a juvenile monthly journal in Philadelphia entitled "The Little Pilgrim."

LIQUID AMBER, or LIQUIDAMBAR. See **BALSAMS.**

LIQUORICE, a medicinal article prepared in various forms from plants belonging to the genus *glycyrrhiza* (Gr. γλυκυσ, sweet, and ρίζα, a root), commonly from the *G. glabra*. This is the Spanish plant; that of Calabria and Sicily is the *G. echinata*. A species called the *G. lepidota* abounds on the banks of the Missouri river, which Mr. Nuttall describes as possessing the taste of the foreign plant. The *glycyrrhiza* is a herbaceous plant of the natural order *leguminosae*, growing in erect stems 4 or 5 feet high, with few branches, leaves alternate, pinnate; flowers violet or purple, formed like those of the pea, and arranged in axillary spikes on long peduncles. The fruit is a smooth pod containing 1 to 4 small kidney-shaped seeds in a single cell. The root, which is perennial, attains the length of several feet, and is sometimes more than an inch in diameter. When 8 years old it is dug, and when cleansed and dried is ready for the market, in which state it is known as stick liquorice; or it is at once cut up and boiled in water to furnish the extract. This is the saturated solution, decanted off and evaporated to proper consistence for forming the substance into cylinders 5 or 6 inches long and an inch in diameter. In this state, rolled in bay leaves, which adhere to the black cylinders, the substance is the crude liquorice of commerce. It is dry and brittle, of shining fracture, of sweet and peculiar taste, and, if pure and genuine, entirely soluble in water. This, however, is rarely the case, for the article is subject to gross adulterations. The Spanish liquorice, according to Accum, is frequently nothing else than a mixture of the juice with the worst kind of gum Arabic, called Barbary gum, imported into England chiefly for making shoe blacking. Metallic copper scraped off the evaporating pans is very commonly present; and starch and flour sometimes constitute nearly one half of the substance. These adulterations Dr. Hassall found extended to the different kinds of roll and pipe liquorice, and Pontefract lozenges, which last, made near Pomfret, Yorkshire, are usually considered as presenting a very pure form of the extract. Liquorice is refined by dissolving the impure extract in water without boiling, separating the insoluble matters and also the acrid oleo-resinous portions which by long boiling were extracted from the root, and reforming the article in cylinders of the size of pipe stems. But in the place of the substances removed others are commonly introduced, as sugar, flour, starch, and gelatine. Liquorice root was first thoroughly analyzed by Dr. Hassall, who gives the following results in his late work, "Adulterations Detected." The peculiar principle, glycyrrhizine, was formerly separated and described by Robiquet:

Constituents.	Fresh root.	Unadulterated powder.	Decomposed powder.
Glycyrrhizine.....	8.60	10.40	13.00
Gum.....	24.60	43.30	37.10
Resin, &c., soluble in alcohol.....	.75	1.09	.89
Albumen.....	.97	1.50	1.89
Starch.....	22.91	94.41	29.53
Woody fibre.....	13.36	15.30	16.53
Moisture.....	24.81	4.10	1.30
Total.....	100.00	100.00	100.00
Ash = 3.07 per cent.			

Of the fresh root 500 parts furnished 175 parts of extract; and the same quantity of the powder of the dried root gave 275 parts of the extract.—Liquorice is used in the form of a decoction of the root, which is an excellent demulcent, applicable in catarrhal affections, and to irritations of the mucous membrane; and the extract is largely employed for similar purposes. It is an important ingredient in cough mixtures, or is taken alone to allay the tickling and irritation of the cough and promote expectoration. It is also used in mixtures to disguise the taste of other medicines; and in pills to give them proper consistence.

LISBON (Port. *Lisboa*), the capital of Portugal and of the province of Estremadura, situated on the N. bank and near the mouth of the Tagus, lat. 38° 42' N., long. 9° 5' W., about 180 m. S. from Oporto, 230 m. N. W. from Cadiz, and 320 m. S. W. from Madrid; pop. in 1857, 275,000; of the district to which it gives its name, 424,030. The city, covering several hills with palaces, churches, convents, and other striking buildings, has a magnificent appearance, which is only surpassed by that of Constantinople or Naples. Many of the streets, however, are in a miserable and filthy condition, particularly in the E. part of the city, which, having escaped from the earthquake of 1755, is the oldest. The other parts, which were destroyed, have been rebuilt more regularly. Lisbon is divided into 6 districts, and contains 89 parishes, including Belem, 854 streets, 216 cross streets, 110 courts or alleys, 12 large squares (the principal and one of the grandest in Europe being the *Praça do Commercio*) and 48 smaller ones, 5 public walks, and 34 fountains. The castle and citadel of St. George occupy the highest point of the city. The cathedral is one of the most ancient edifices of Lisbon. The church of St. Vincent contains the tombs of most of the members of the reigning house of Bragança. The Necessidades palace commands a fine view of the river, and has handsome gardens. The other principal palaces are those of the Ajuda, of Belem, and of Bemposta. The meetings of the cortes take place in the convent of San Bento, the galleries in the hall of deputies and of peers being neatly fitted up for spectators. The aqueduct, erected in the 18th century, bringing the water a distance of several miles from the N. W. side of Lisbon to a reservoir near the *Praça do Rato*, is one of the most noteworthy objects of public interest in Lisbon. The arsenal was at one time one of the finest establishments of the kind in Europe, and

is still interesting from its collection of weapons and engines of war. A naval arsenal was also erected at the end of the 18th century, after the earthquake; a great industrial exhibition was held there in 1849. Lisbon abounds in hospitals and charitable institutions, the most interesting of which is the *Real Casa Pia*, for the accommodation of foundlings, orphans, and abandoned children, and the most extensive the hospital of St. Joseph. Among the other public buildings are the custom house, the exchange, 5 theatres, the royal library, a museum of natural history, and a botanic garden. The English church contains a handsome cemetery, with the remains of Dr. Doddridge and Fielding, in whose honor a tomb was erected in 1830. Among the learned institutions is an academy of sciences, an academy of fine arts, and societies for the improvement of industry and the working classes.—The harbor of Lisbon is one of the best and most accessible in the world. Although its trade has declined since the loss of Brazil, it is still of great importance. The imports in 1857 (chiefly colonial produce, cottons, woollens, metals, &c.) were valued at \$10,000,000, and the exports (wine, spirits, meat, metals, &c.) at nearly \$6,000,000, including \$600,000 in specie. About 5,000 vessels enter and leave annually, half of which are engaged in the coasting, and the remainder in the foreign trade. Of American vessels there were 11 in the year ending Sept. 30, 1858. There are sugar refineries, tanneries, potteries, silk, paper, and soap factories; but the industrial activity is very limited. The goldsmiths and jewellers of Lisbon are among the most skilful workmen of Europe.—Lisbon was originally called *Olisipo*; by the Romans *Felicitas Julia*; and by the Moors *Lishbuna* or *Ashbuna*. The last named captured the city in the beginning of the 8th century, and it remained in their power with some slight exception till about the middle of the 12th, when Afonso I. made it one of the great capitals of Christendom. It reached the zenith of its importance at the beginning of the 16th century under Emanuel the Great, when the Portuguese were distinguished above all other nations for their maritime discovery and commercial enterprise. The most memorable event in the history of Lisbon is the earthquake of Nov. 1, 1755, by which about 60,000 persons lost their lives, and most of the city was destroyed. (See EARTHQUAKE, vol. vi. p. 722.) Lisbon has never fully recovered from this calamity, of which vestiges still remain in the desolated aspect of many vacant building sites. The city was occupied by the French in 1807, but delivered by the English in 1808, and protected by the duke of Wellington against the attacks of the enemy by the erection in 1809–'10 of formidable fortifications, extending from the N. of Cape Roca eastward to Torres Vedras (hence called the lines of Torres Vedras), and southward from Alhambra to the Tagus.

LISIEUX, a French town, capital of an arrondissement of the same name, situated in a

fine valley, watered by the small streams Orbea and Toucques, in the department of Calvados (Normandy), 118½ m. by railway from Paris; pop. in 1856, 12,651. The principal street, traversed by the highway from Caen to Evreux, is spacious and handsome; the rest of the town is composed of narrow and tortuous streets, and most of the houses are of wood and present a wretched appearance. The finest edifice of Lisieux is the cathedral, a Gothic building of the 13th century. The town contains a handsome chapel of the Holy Virgin, erected by the bishop Peter Canchon in expiation of the bloody part which he had taken in the execution of Joan of Arc; a public library of 6,000 vols.; and a theatre. The episcopal palace is a fine building with beautiful gardens. Most of the manufactures of the arrondissement, chiefly linen, woollen, cotton, ribbons, &c., amounting to about \$4,000,000 annually, are sold in Lisieux; and there is also a brisk commerce in grain, fruits, cider, hemp, flax, cattle, and the other produce of the country.—Lisieux is a town of great antiquity, and was the capital of the Lexovii. It was pillaged by the Normans in 877, burned by the Bretons in 1180, taken by Philip Augustus in 1203, by the English in 1415, and by Henry IV. in 1589.

LISLE, GUILLAUME DE, a French geographer, born in Paris, Feb. 28, 1675, died Jan. 25, 1726. He was the son of Claude de Lisle, a geographer and historian of some note, and from childhood manifested a strong predilection for the science in which he afterward became so distinguished. At the age of 9 he had constructed several charts of ancient history, and he was not long in forming the design of wholly reconstructing the system of geography then pursued in Europe. This he effected in 1700 by the publication of maps of the world, and of Europe, Asia, and Africa, in which he corrected many of the errors which had been copied with little alteration into all the works on geography since the time of Ptolemy. He also constructed a celestial and a terrestrial globe. These works were the object of general admiration. De Lisle was admitted to the academy of sciences in 1702, and was afterward appointed tutor in geography to Louis XV., who created for him in 1718 the title of "first geographer to the king," with a pension of 1,200 livres. De Lisle drew up several maps for the use of his royal pupil, and the whole number which he made is said to amount to 134. In 1724 he published a corrected edition of his map of the world. He contributed several memoirs to the *Recueil de l'académie des sciences*.—JOSEPH NICOLAS, a French astronomer, brother of the preceding, born in Paris, April 4, 1688, died there, Sept. 11, 1768. He first brought himself into notice in 1706 by an essay on an eclipse of the sun. In 1714 he was chosen a member of the French academy, and in 1724 visited England, where he was well received by Halley and Newton, and elected a fellow of the royal society. On the invitation of Catharine I. in 1726, he went

to St. Petersburg, where he had charge of the observatory until 1747, when ill health obliged him to return to France. While in Russia he had made a collection of objects illustrative of geography and astronomy, which on his return was purchased by Louis XV., and De Lisle charged with the care of it. He also became a professor in the royal college of France, where Lalande and Messier were among his pupils.

LIST, FRIEDRICH, a German political economist, born in Reutlingen, Aug. 6, 1789, died by his own hand in Kufstein, Nov. 30, 1846. He studied political economy, was for two years professor of this and kindred sciences at Tübingen, and officiated as agent of the German commercial union from 1819 to 1821, when he was elected to the Würtemberg chambers; but having attacked the government in a petition, he was prevented from taking his seat, and sentenced to 10 months' imprisonment. After fruitless attempts to obtain his pardon, and after several years' exile, he was eventually compelled to pay the penalty of the law by imprisonment in the fortress of Asperg, after which he emigrated to the United States, and settled in Pennsylvania. His "Outlines of a New System of Political Economy" was published in Philadelphia in 1827. He became an extensive holder of land, which he made available for cultivation in concert with other capitalists, and also took an active interest in the establishment of railways. His name was particularly associated with the settlement of Port Clinton and Tamaqua, two towns in Schuylkill co. In 1830 he was appointed U. S. consul at Hamburg; but after a residence in Paris, he came back to Pennsylvania, and finally returned to Europe in 1832, and in 1833 took up his abode at Leipsic, where for some time he officiated as American consul. He advocated the establishment of the Leipsic-Dresden and of other railways, and in 1837 went to Paris, whence he wrote a series of letters to the Augsburg *Allgemeine Zeitung*, subsequently collected in a work, the 1st volume of which was published in Stuttgart in 1841 under the title of *Das nationale System der politischen Oekonomie*, advocating the consistent protection of national industry. In 1843 he established at Augsburg the *Zollvereinsblatt*, in which he proposed the enlargement of the customs union, and the organization of a national commercial system and of a national fleet. In 1844 he visited Austria and Hungary, and in 1846 England with the view of founding a commercial alliance between that country and Germany. He was not successful, and having met with disappointment in many other projects and lost his property in the United States, he blew his brains out. Ample justice has been done since his death to his disinterested and indefatigable exertions. An edition of his complete works, with his biography by Häusser, was published at Stuttgart in 1850-'51 (3 vols. 8vo.).

LISTER, JOSEPH JACKSON, an English microscopist, born about 1800. A merchant by profession, he devoted his leisure to the study of

natural history, and was thus led to the use of the microscope, the imperfections of which turned his attention to its construction. He succeeded in making very considerable improvements, forming a combination of lenses thoroughly achromatic, and capable of admitting observation over a very extensive field. These improvements are described at length by him in the "Philosophical Transactions" for 1829. Mr. Lister is not less distinguished as an observer than as an inventor. He was elected a fellow of the royal society in 1832.

LISTON, JOHN, an English actor, born in London in 1776, died March 22, 1846. He was educated at Dr. Barrow's school, Soho, and subsequently became second master in the grammar school of St. Martin's, Leicester square, founded by Archbishop Tenison. Having been expelled from this establishment for acting in plays with the large boys, he went upon the stage, and for several years appeared in provincial theatres with moderate success. His Digory in "She Stoops to Conquer" first revealed his remarkable comic genius. In 1806 he obtained an engagement at the Haymarket theatre, and by his Gawkey in the "Chapter of Accidents" and Lord Grizzle in "Tom Thumb" established a reputation as one of the first low comedians of the day. In 1809 he attempted tragedy, with but moderate success. His famous character of Paul Pry, first performed in 1825, created at the time an unusual sensation. Among his other principal characters were Mawworm, Tony Lumpkin, Bombastes Furioso, and Billy Lackaday in "Sweethearts and Wives." He retired from the stage about 1837. He was a man of exemplary character.—Mrs. LISTON, wife of the preceding, whose maiden name was Tyrer, born in London about 1780, died Sept. 19, 1854. Though in stature almost a dwarf, she was for many years a favorite with the public in her acting as well as in her songs. Her best part was that of Queen Dollalolla in Tom Thumb. She married Mr. Liston in 1807, and bore him a son, who became a captain in the army, and died in Nov. 1854, and a daughter, who married Rodwell, the musical composer.

LISZT, FRANZ, a Hungarian pianist and composer, born in Raiding, near Oedenburg, Oct. 22, 1811. At 6 years of age he manifested so extraordinary an aptitude for music, that his father, himself a musician of some repute, thenceforth carefully instructed him on the pianoforte. In his 9th year he performed at a public concert in Presburg at which were present several wealthy Hungarian noblemen. The latter, astonished at young Liszt's talents, at once proposed to contribute to his musical education during the next 6 years. In accordance with this proposition Liszt, accompanied by his father, repaired to Vienna and was put under the instruction of Karl Czerny and Salieri, with whom he remained about 18 months, after which he appeared in concerts in Vienna, Munich, and elsewhere, with great success. At Paris, where he arrived in 1823, he received the most flatter-

ing attentions; but his father, who was his inseparable companion, took care that he should not be spoiled by the indiscriminate praises lavished upon him. Although rejected as a pupil by the *conservatoire* on account of his foreign birth, he was carefully instructed in counterpoint by Reicha, and not a day passed in which he did not give many hours of practice to the works of Bach and other eminent composers for the pianoforte. When his education was considered finished, father and son made lucrative concert tours in the provinces and in England. Upon his return to Paris in 1825, Franz produced an opera in one act entitled *Don Sancho, ou le château de l'amour*, which only escaped condemnation on account of the youth of the composer. In 1827 he lost his father, an event which made a deep impression upon him, and under the influence of an unusually active imagination he surrendered himself to gloomy fancies and religious rhapsodies. An unhappy attachment to a woman of rank at the same time prompted him to retire from the world, and for several years he almost wholly relinquished his art. In this interval his plastic mind, quick at receiving impressions, embraced at different times the doctrines of the St. Simonists, the philosophy of Lamennais, and the vivid poetic fancies of Victor Hugo or George Sand. During the revolution of July, 1830, he composed a *Symphonie révolutionnaire*, which, however, was never published. The appearance of Paganini in Paris in 1831 roused him from this mood, and, full of the idea of becoming the Paganini of the pianoforte, he resumed his practice on that instrument. In 1835 he heard of the success of Thalberg in Paris, and, after an interval of 8 years, suddenly made his reappearance there with an éclat which his long absence had in no respect diminished. A contemporary critic, in enumerating the qualities which distinguished both pianists, observed: "Thalberg is the first, but Liszt is the only one." From Paris Liszt proceeded in 1837 to Italy, creating everywhere a sensation not less lively than that caused by Paganini. At Vienna he gave a series of concerts in aid of the sufferers by the great inundation of 1838 at Pesth; and at the solicitation of a deputation of Hungarian noblemen he subsequently visited the latter city, where he was received with extraordinary enthusiasm, and was presented by the inhabitants with a sword of honor and the rights of citizenship. From this period until 1847 his career was a succession of triumphs, and probably no musician has in an equal space of time been more honored, flattered, or caressed by all ranks of society. In the latter year, wearying of the life of an itinerant performer, he retired to a small village in Germany, with the intention of devoting himself to a higher order of composition than the fantasias and other pianoforte pieces which he had previously produced. About this time he accepted an offer from the duke of Weimar to assume the post of conductor of the court concerts and the opera at Weimar, where he has since resided.

In this position he has made Weimar one of the chief musical centres of Europe, and has helped to introduce to notice several of the rising composers of Germany. To his exertions Richard Wagner is in a great measure indebted for the publicity which his operas now enjoy. With characteristic generosity he also affords gratuitous instruction to young pianists, for whose benefit he gives private performances. As a performer Liszt stands at the head of what has been called the "prodigious" school, excelling in the production of difficult and novel effects. His fingering is firm, vigorous, and wonderfully flexible; but he labors under the imputation, not altogether unfounded, of sacrificing grace to strength, and of a desire to astonish rather than to charm by his playing. His compositions are liable of the same criticism. Bach, Handel, Beethoven, and the older composers have, however, had no more eloquent interpreter, notwithstanding he cannot always avoid substituting his own ideas for theirs. As a performer his execution has deteriorated during his retirement, and it is said that he cannot now perform many of his early pieces, distinguished chiefly for their difficulties. He has been an active contributor to musical literature, and is the author of a "Biography of Chopin" (1852), of a work on "The Gypsies and their Music" (Paris, 1859), and of numerous articles on the operas of Wagner and other subjects in the *Neue Zeitschrift für Musik*. His compositions comprise a variety of fantasias, caprices, reminiscences, &c. His personal appearance is striking, and his features, though angular and unprepossessing, thoroughly reflect his genius and energy of character. He possesses many engaging personal qualities, and is distinguished by an almost profuse liberality.

LITCHFIELD, a N. W. co. of Conn., bordering on N. Y.; area, 885 sq. m.; pop. in 1850, 45,258. It is watered by the Housatonic, Naugatuck, and Farmington rivers, with their branches, which supply extensive water power. The surface is uneven, in some parts mountainous, and the soil good. Iron ore abounds and is extensively manufactured. The principal productions in 1850 were 279,186 bushels of Indian corn, 91,224 of rye, 299,488 of oats, 293,511 of potatoes, 109,288 tons of hay, 1,246,588 lbs. of butter, and 143,518 of wool. There were 17 grist mills, 10 iron founderies, 16 woollen factories, 5 cotton factories, 39 tanneries, 104 churches, and 8,828 pupils attending public schools.—LITCHFIELD, a township and the capital of the preceding county; pop. in 1850, 3,958. The village is pleasantly situated on an elevation which commands a view noted for its beauty. It contains a court house, gaol, 4 churches (Congregational, Episcopal, Methodist, and Roman Catholic), a private lunatic asylum, 2 academies, and a newspaper office. It was formerly the seat of a celebrated law school, established in 1784 by the Hon. Tapping Reeve, but discontinued after his death. Of late years it has been a favorite summer resort.

LITERARY HISTORY, the history of books, treating therefore the attainments and progress of the human mind in every department, and the characteristic tendencies and opinions of every age. Political and ecclesiastical histories deal chiefly with events; literary history, with thought; each merges into the other, and they are necessarily connected in any complete narrative. Bibliography, biography, and even special criticism are but the subordinate parts of literary history; its main object is to show the general progress and phases of intellectual development and of æsthetic and moral culture. The ancients left no example of this species of history. It consists in large part of generalizations from literary phenomena, of which Paterculus gives one early instance. He shows by a historical review that the great men of antiquity seem often to have come in clusters, appearing almost contemporaneously in particular places. Quintilian also introduces the principal authors of Greece and Rome together in a single chapter. But the classical and mediæval authors rendered scarcely any service to this department, except by leaving materials. From the 16th century many more or less comprehensive histories of European literature have appeared, and the present century especially has produced valuable synoptical views both of European and oriental literature. Notwithstanding the *Bibliotheca Universalis* (1545-'55) of Conrad Gesner, and the *Bibliotheca Selecta* (1593) of the Italian Jesuit Possevin, Hallam follows Lord Bacon in the assertion that no real history of letters had been written up to his time. Bacon compares the world, lacking this, to a statue of Polyphemus wanting his single eye. He gives the outlines of a scheme which should contain "the antiquities and originals of knowledges, and their sects, their inventions, their traditions, their divers administrations and managings, their flourishing, their oppositions, decays, depressions, oblivions, removes, with the causes and occasions of them, and all other events concerning learning, throughout the ages of the world." Such a history, he says, would "make learned men wise in the use and administration of learning." The principal attempts in the 17th century were the *Prodromus Historiæ Literariæ* of Lambecius (1659), in which the design of a universal account of literature is completed only as far as the times of Moses and Oadmus, and the *Polyhistor Literarius* of Morhof (1688), a work of erudition and judgment, which was enlarged by Fabricius, and remained long in esteem. A more complete and regular synopsis was the *Origine, progresso e stato attuale d'ogni letteratura* (1782-'99), by the Jesuit Andrea, displaying extensive learning, but little philosophical thought. A history of modern arts and sciences was meantime projected in Germany. The several departments were distributed among 11 savants, and J. G. Eichhorn undertook the general survey. He afterward published a history of letters from the earliest ages (1806-'11), more methodical and specific than any that had

preceded it, but showing a less thorough acquaintance with science and the modern languages than with oriental and theological literature. Of subsequent general literary histories, the most important are Wachler's *Handbuch der Geschichte der Literatur* (8d enlarged ed., 1838), and Grässe's *Handbuch der allgemeinen Literaturgeschichte* (1887-'55). The Italians have excelled in histories of their own literature. Tiraboschi (1772-'89) applies himself particularly to the exposition of facts, and makes but a sparing use of criticism; Corniani (1804-'18) more frequently analyzes books, and critically appreciates the writers; and the French author Ginguené (1811-'19) includes both the Latin and native literature of Italy. Sismondi's history of the literature of southern Europe is full and pleasing. There is no esteemed complete history either of French or English literature. The colossal literary history of France undertaken by the Benedictines in 1733 is still continued by the academy of inscriptions and belles-lettres. Demogéot in 1857 published a brilliant summary in one volume. Warton's history of English poetry, extending only to the reign of Elizabeth, has remained a favorite work. Hallam's "Introduction to the Literature of Europe in the 15th, 16th, and 17th Centuries" is hardly surpassed in respect of learning and philosophical criticism by any literary history. In Germany, Brucker, Tennemann, Buhle, and others, have written histories of philosophy. Menzel is the principal general historian of German literature (1828), Bouterwek of modern poetry and eloquence (1801-'19), Wilhelm von Schlegel of dramatic literature (1809-'11), and Ferdinand Wolf of Spanish and Portuguese literature (1859). The most authoritative history of Spanish literature is that by George Ticknor (8 vols., New York, 1849).—The works of chief importance on the literatures of different nations are referred to at the close of the articles under their several heads.

LITHARGE. See LEAD.

LITHGOW, WILLIAM, a Scotch traveller, born in the parish of Lanark in 1583, died there in 1640. He was of humble parentage, and as soon as he attained manhood commenced a pedestrian tour on the continent. After travelling in Germany, Bohemia, the Netherlands, Switzerland, and France, he proceeded to Italy, then visited Greece, western Asia, and Egypt, and returned to England, bringing with him "certain rare gifts and notable relics" from Jordan and Jerusalem, which he presented to King James and the queen. Having remained a year in London, he set out for western Africa, and traversed Morocco, Algiers, Tunis, and Tripoli, returning home through Hungary, Poland, and Germany. His reputation as an adventurous traveller had by this time become so great that the court and people of London regarded him as a public curiosity, the king honoring him with frequent and familiar audiences, while the nobles and gentry entertained him as a guest. In 1619 he departed on a third tour,

bearing recommendatory letters from James to all kings, princes, and potentates. These documents however did not much avail him, for on arriving at Malaga in Spain he was arrested as a spy, and subjected to torture; his limbs were mangled and crushed, and his body lacerated with tightened cords. Through the intervention of the British consul, he at length obtained his liberty, and was conveyed to England in 1621, a helpless invalid. His condition was so deplorable that he had to be presented at court reclining on a feather bed. On recovering his health Lithgow was so imprudent as to assault the Spanish ambassador in the presence chamber, which outrage consigned him for 9 months to the Marshalsea prison. His latter days were passed in Scotland. The first edition of his "Travels" was published in London in 1614, the latest in 1814. He was also the author of a history of the siege of Breda (1687).

LITHIA (Gr. *λίθος*, a stone), the oxide of the metal lithium, discovered by Arfwedson in 1818 in the mineral petalite, since found in lepidolite, spodumene, and in several varieties of mica; symbol LiO , chemical equivalent 14.5. It is an alkaline substance closely allied to potash and soda. It is separated by igniting the pulverized minerals that contain it with twice their weight of quicklime, treating first with hydrochloric and then with sulphuric acid. The sulphate of lithia, being soluble, is thus separated from the insoluble sulphate of lime, and is afterward decomposed by baryta water, the hydrate of lithia after filtration being recovered by evaporation; this fuses below redness; but as the alkali powerfully attacks platinum, the capsules employed should be of silver. Lithia forms several salts, which in general are remarkably fusible.—The metal LITHIUM (symbol Li , chemical equivalent 6.53) was first obtained by Davy. It is most easily reduced from the chloride by the galvanic current. It is a soft, ductile, white metal, susceptible of being welded and drawn into wire, but has less tenacity than lead. It fuses at 356° , and is not volatilized at a red heat. It is the lightest solid body known, its specific gravity being only 0.5936. It burns brilliantly, floats upon water, and soon abstracts its oxygen, its behavior being like that of sodium.

LITHOGRAPHY (Gr. *λίθος*, a stone, and *γραφω*, to write), the art of producing designs upon stone, and transferring them to paper in the ordinary method of taking impressions. It may be called a branch of engraving; and to some extent in France, Germany, and Austria, for maps, botanical illustrations, &c., which require very minute and distinct lines, stones are cut with fine gravers of steel or diamond points in the same manner as copper plates are engraved. The cost is less than $\frac{1}{4}$ that of copper-plate engraving, and from 10,000 to 12,000 impressions may be taken from a stone without deterioration. But in the usual practice of the art, the lines which receive the ink are composed of some greasy substance, which is applied with a pen, crayon, or brush to the stone.

The inky material is then washed with a weak acid solution, which has the effect of hardening it, and also eating away slightly the stone not protected by the ink. Water is then applied, which wets the clean portions of the stone, leaving the greasy lines dry; and after this the lithographic ink laid over the whole adheres only to the greasy lines. The art was invented at the close of the 18th century by Aloys Senefelder, a Bavarian, who, too poor to publish his works, experimented with a view to discover some cheap method by which he could print them himself. (See SENEFELDER.) The process was suggested to him by his having casually made for his mother a memorandum of clothes to be sent to the washerwoman by writing upon a slab of stone, which he intended to copy. As it lay before him he thought to try the effect of applying printer's ink to the lines and thus taking an impression, and in 1796 succeeded in printing a piece of music from lines drawn in slight relief. Long before this, in 1728, a member of the French academy of sciences, named Dufay, described in the *Mémoires* of the academy a method of engraving in relief upon marble and some other stones, by which, with the use of a varnish to protect the portions to be left raised, and of acid to eat down the other portions, he produced upon the stone the most delicate designs; but this was applied to no further purpose. Senefelder obtained a patent for his process in several of the German states, and in 1802 engaged to some extent in the work at Vienna. He made use of his art as a cheap method of copying music, and thus invented that department of it known as autography or transferring, which even in 1799 he had extended to the copying of old engravings, the method being nearly the same with that now in use. He also devised at the same time the several modes of drawing with the pen, and the crayon or chalk, and the point engraving. He labored to extend his art throughout Europe, and was continually devising new modes of its application. It was introduced into Rome and London in 1807, and into Paris in 1814. Everywhere it met with great favor, and especially in Paris. Artists of distinction practised and aided to perfect it; and it was fashionable for the nobility to design on stone. It is said that this was skilfully practised by the duchess de Berry, and that the duke de Bordeaux pulled proofs, and the duke of Orleans illustrated "Gulliver's Travels." Lemercier cultivated the art with the most distinguished and long continued success. He contrived a new autolithographic paper, by the use of which painters and designers can work at once upon paper without fear of their productions being injured in the process of transferring them to stone. In the great exhibition at Paris in 1855 the medal of honor was awarded to Lemercier, who was then conducting a large establishment containing more than 100 presses and employing about 200 workmen. Count de Lasteyrie invented the method of facsimile printing, appli-

cable to the obtaining copies of characters that cannot easily be brought into ordinary typography, and also to maps in which all the details are lithographic, while the names of places are first produced upon the paper by ordinary printing. Engelmann by his knowledge of chemistry was able to give a great impulse to the art of lithographic printing in colors, or chromolithography; and by the science brought to bear upon lithography generally in Paris, it has there been carried to a higher degree of perfection than elsewhere. Full treatises were published upon it in 1819 by Count Raucourt and Senefelder. The lithographic art was introduced into the United States in 1821, and was practised by Messrs. Barnet and Doolittle in New York. There is a favorable notice of it with some of the earliest specimens in the 4th volume of the "American Journal of Science" for 1832. This country cannot boast of its progress or of any works of merit in the art. In England its productions have been of a high order, especially in landscapes; and the establishment of the Ackermanns in London was long famous for the fine specimens it furnished in immense numbers in this department, including the productions of Hughe, Ward, Westall, Harding, Lane, and others. In all civilized countries it is practised to a very great extent as a cheap method of furnishing prints and facsimiles, and forms of checks, bills, and other papers used for commercial purposes.—The best stones employed in lithography are slabs of a light-colored, slaty, argillaceous limestone, found in very extensive beds at Solenhofen, near Pappenheim, on the Danube. The rock belongs to the upper oolite, and occurs in sheets and slabs of various thicknesses. It is exceedingly fine-grained, formed evidently of the finest sediments; its fossils are many of them of the most delicate character, among them being found insects intermixed with other animal remains of marine character. The quarries had long been worked to furnish flooring slabs before this more valuable application of the stone was discovered. Other countries also have furnished lithographic stones, as those from the cretaceous formation of Belbèze, Haute-Garonne, in the French Pyrénées, claimed by some to be harder and better than the Bavarian. Those of Châteauroux in France are much used for lithographic writing. Others have been obtained near Bath in England, in Canada, and many other places. But after a careful examination of samples, at the French exhibition of 1855, from Algeria, Italy, Portugal, France, and Canada, the jury awarded the superiority in the aggregate of good qualities to those of Bavaria, such as were first used by Senefelder. The most perfect stones are required for crayon drawings. They should be of close and uniform texture, free from all spots, stains, and colored veins, and are of a pearl gray tint or light buff. For pen and brush drawings stones of somewhat inferior quality will answer; and for engraving the hardest are used without much regard to the veins and other similar de-

fects. To prepare them for use, they are first ground to a smooth and perfectly even face and polished; and then, according to the degree of fineness of the intended drawing, they are grained by rubbing the faces of two stones together with the intervention of finely ground silicious sand. To produce the precise grain required is a matter involving much care and skill. Stones that have been once used are treated in a similar manner to obliterate all the old marks and prepare them for use a second time.—The next requisite to that of a proper stone is a suitable ink or crayons for producing the drawings. Of these the mode of preparation is very variable; but the essential ingredients are chiefly soap, white wax, and Paris black. Various other substances are also employed, as tallow, mastic, shell lac, Venetian turpentine, carbonates of soda and potash, Brunswick black, &c. A mixture is made and melted together over the fire, and the materials are thus well incorporated together. More tallow gives a softer crayon or "chalk," and shell lac adds to its hardness. The mixture is cast into moulds, and the pieces may afterward be pointed and used as pencils, or be dissolved in water in the same way as India ink is rubbed. The latter is used chiefly on the polished stones, and may be applied with fine camels' hair brushes, or with fine steel pens, the outlines of the drawing being first transferred to the stone from paper. The crayons are used only upon grained surfaces, as their material would not adhere when rubbed upon smoothly polished surfaces. Their points soon become dull, and large numbers are kept ready sharpened at hand. The shading is effected precisely as in other drawings by the varying thickness or distance apart of the lines. With skilfully drawn lines in ink upon smooth surfaces, as fine an effect may be produced as upon copper. Drawings are sometimes transferred to stone from paper. For this purpose they are first made in a kind of copying ink, called autographic ink, upon paper prepared with a peculiar kind of size, and when used are laid face down upon the stone and pressed.—When the stone has received the design, the next operation is to fix it by destroying the solubility of its materials, so that it may not be entirely removed by water. This is effected by different chemical applications, among which nitric or hydrochloric acid may advantageously be used. The former, largely diluted with water, is commonly preferred, and its application is called etching. It is washed over the stone, and acts in several ways to perfect the operation. It dissolves out the alkali of the ink, leaving the insoluble portion to harden upon the stone; it attacks the calcareous material of the stone, and thus lowering the clean portions raises the inked portions in relief; it renders the parts it attacks porous and more susceptible of absorbing water, the benefit of which will be seen in speaking below of the process of printing; and by uniting with the lime it forms a film of calcareous salt, which

effectually covers the clean stone and prevents the appearance of spots and blemishes that form wherever the hand touches the stone, or any greasy matter reaches it in the course of its preparation. The stone is next washed with pure water and afterward with gum water; the object of the latter is to prevent the coloring matter from spreading under the pressure to which the stone is to be subjected in printing, and to retain the acid that adheres to the greasy substance, the quality of which it is designed to change. The roller charged with printing ink is then passed over the stone till the ink is found to adhere to the drawing. An application of gum Arabic in water is next made, and the stone is put away for a day or two that the ink may become well incorporated into it. When required for printing, it is secured in a suitable press, and backed if necessary to strengthen it with a bed of plaster of Paris. The gum is loosened by a sprinkling of clean water, and removed by passing a wet sponge lightly over it, and the ink, worked up on the color table close by, is rolled over the whole surface. That this may adhere only to the drawing, the stone must be kept uniformly wet, and some gum must always be present, though it may be in so small a quantity as not to be perceptible. If the ink is found to stain the stone in any part, it must be scraped off and gum water applied; and if this does not prove sufficient, it will be necessary to touch these parts with acid, and afterward with gum water. When the ink is properly distributed, the paper is laid upon the stone and the impression is taken. With each one the moisture is removed from the stone to the paper, and must be renewed. The ink employed for lithographic printing is a peculiar preparation, a receipt for which is given in the article *INK*. It must be thick enough to prevent its spreading too readily, so as to run upon the clean parts of the stone; and it must not be so thick as to adhere firmly to the paper and take up with it portions of the chalk or crayon. When this occurs the drawing is spoiled after a few impressions. In very warm weather it is sometimes found impossible to go on with the ink ordinarily employed. At other times it is occasionally found necessary to lay aside the stone for a few days to give the drawing time to redden; but it must not be allowed to become too hard, as it would then refuse to take the ink. A special preserving ink or varnish is made use of to protect the drawing from becoming too hard, when it is desirable to leave it for a long time.—The quality of the paper is a matter that requires attention. If it contain any gritty substances, it will soon act upon the stone; plaster in its composition soon causes the lines to be clogged; and alum attacks the gum and ruins the drawing. It is even better to use unsized paper whenever the strength of this is sufficient. The printer should be able to appreciate the character of the work in hand, for upon his manner of applying the ink the general tone of the impressions may in great

part depend. Their perfection is also in part due to the condition of the paper as to proper amount of moisture, and to his manner of regulating the press. The apparatus employed for this purpose, though greatly improved from that formerly in use, has still the appearance of clumsiness and imperfection. The stone is set in a table, which can be run upon rollers turned by a hand crank under a fixed wooden scraper edge. This presses down upon the leather sheet or tympan that covers the moistened printing paper and its paper backers, which are first laid upon the face of the stone. Better results are thus attained than by the use of machinery worked by steam, which to some extent is applied to this process. With each impression the stone is wetted and inked. The number of perfect copies obtainable from crayon drawings upon stone is from 500 to 1,500. Fine ink drawings furnish about 6,000, and those in coarse lines have afforded as many as 80,000 without deterioration. Transfers from steel and copper plates and engraved stone to plane stone yield from 1,000 to 5,000 prints, varying with the quality of the drawing, &c. These are much used for printing maps and commercial blanks, of which very large numbers are required. The method is to take an impression from the original plate or engraved stone in transfer ink on paper prepared with a soluble coating of gum, starch, and alum. This is laid face downward upon the stone, and run through the press. The back of the paper being wet, the moisture partially dissolves the sizing, so that the ink is left upon the stone, when the paper is stripped off, and a further application of water completely dissolves and removes the sizing. The ink is then treated as before described.—Chromolithography, which has been most successfully practised by Engelmann in Paris, is a method of printing colors by the use of a succession of blocks, each having a single color distributed in its appropriate places, a process very similar to that described in *CALICO PRINTING*. The effect desired may be attained partly by the superposition of properly selected colors as well as by their juxtaposition. Some examples of printing in this branch of the art are particularly described in the work of Mr. Digby Wyatt, "The Industrial Arts of the Nineteenth Century," 1851; also in the London "Athenæum," June 18, 1858.—Senefelder made many experiments upon zinc as a substitute for stone in the processes peculiar to lithography. The metal in many respects is extremely well adapted for this use; and at the close of their report upon the specimens of the lithographic art in the Parisian exhibition, the jury expressed the opinion that the great advantages offered by the art called zincography are little appreciated. Zinc plates cost but little, are very easily prepared, and designs upon them are made with great facility. The metal takes fat inks, and its polished surface rejects water, while, when roughened by graining with sand and water or by acid or other agent, it is wetted almost as

well as lithographic stone. Prepared by aid of an alkaline solution, its surface becomes so hard, owing to the formation of a suboxide, that it will give from 6,000 to 8,000 good impressions. The art of drawing upon it can easily be learned in two days by a skilful operator. It is especially adapted for drawings of machinery and for architectural designs.—Lithography derives a new interest from the application of photography in furnishing its designs. Mr. Macpherson of Rome was the first to obtain photographs on stone for the purpose of printing them in the ordinary method of treating other designs. He called the art photolithography, and by the French, who have also cultivated it with great success, it is named *lithographie*. He obtained a coating of bitumen, sensitive to the action of light, by Niepce's method of pouring its solution in sulphuric ether upon the stone and allowing the ether to evaporate. To this coating a negative on glass or waxed paper is applied, and by exposure to the full rays of the sun a faint impression is obtained. By sulphuric ether the bitumen is all removed except the portion acted upon by the light, which by this agent has been made insoluble in ether. The stone, being washed, is ready for the ordinary operations of the lithographer. Messrs. Cutting and Bradford of Boston, Mass., have devised a method which promises to be of great importance in obtaining directly exact copies of objects either in reduced or enlarged scale. The stone is coated with a film obtained from a mixture of 4 oz. of gum Arabic with a quart of water and 160 grains each of sugar or molasses and bichromate of potash. The object of the sugar is to prevent the gum from attaching itself too directly to the stone, and the chromic salt has the effect of rendering the portions of gum acted upon by the light to some extent insoluble or fixed. After being exposed in the camera or placed under a negative, the stone is washed with a solution of soap, which removes all but that portion of the film which the light has touched. Upon the preserved portions an insoluble soap is formed, upon which the ink is afterward received. By the process of M. Poitevin the stone is covered with one or more films of a mixture of albumen or gelatine, and a concentrated solution of bichromate of potash. It is then exposed while moist in the camera, or is dried to receive a negative picture. It is afterward moistened with a sponge to receive the lithographic ink, which will adhere only to those parts upon which the light has acted—an effect just the reverse of that in the process of Messrs. Cutting and Bradford. This branch of the art is regarded as particularly appropriate for topographical maps, which, being drawn originally on a larger scale than required, may be very fully illustrated, and all their perfection be retained, in the reduced scale. The lettering on the original can be drawn so small as not to interfere with the topographical features. The whole being then reduced, perfect distinctness

is retained, while the letters, which are properly no part of such a map, may require a microscope to bring their forms into view.

LITHOTOMY, and LITHOTRITY. See STONE.
LITHUANIA (Pol. *Litwa*), a large tract of land in eastern Europe, now belonging to the Russian empire, with the exception of a small part included in the East Prussian district of Gumbinnen, but which in the middle ages formed an independent state, and subsequently a great principality or grand duchy united with Poland. At the period of its greatest power in the 14th century it extended from the shores of the Baltic to those of the Black sea, and from the northern Bug to the Don. At the time of the first dismemberment of Poland, in 1772, it consisted of the palatinates of Wilna, Troki, Novogrodek, Brzesko, Vitebsk, Polotzk, and Mstislav, and the duchy of Samogitia; almost the whole of these territories is now included in the Russian governments of Wilna and Grodno, or Lithuania proper, of Vitebsk, Mohilev, and Minsk, and in the government of Augustowo in the Russian kingdom of Poland. Lithuania is generally a flat and low country, covered in great part with sand heaths, forests, marshes, and fens. The marshes of Pinsk, in the government of Minsk, are very extensive, and form a kind of dreary and gloomy desert. The principal rivers are the Niemen, Duna, Wilia, Dnieper, Beresina, and Pripetz, all of which abound in fish. The chief exportable productions are grains, flax, hemp, honey, timber, cattle, and horses. Among the wild animals are bears, wolves, elks, lynxes, wild hogs, foxes, and the aurochs or European bison, which is now confined exclusively to the forests of Bialowica in the government of Grodno. The climate is moderate and healthy. The inhabitants consist chiefly of Lithuanians proper, Poles, Russians, Tartars, and Jews.—Lithuania is first mentioned under this name about the beginning of the 11th century, when the inhabitants were little more than half savages living on the rude products of their extensive forests. They were long tributary to various neighboring Russian principalities, and, having recovered their independence, became involved in the 18th century in a long struggle with the knights sword-bearers, who established themselves on the shores of the Baltic, and in connection with the Teutonic order subdued and converted the kindred pagan tribes of the Prussians and others. Though inferior to their enemies in the art of war, the Lithuanians not only maintained their freedom, but also commenced a series of aggressive wars with their eastern neighbors, and rapidly grew in power. Ringold appears as the first great prince or grand duke of the united country before the middle of the 13th century. His son Mindog received the royal diadem from the pope after having adopted the Christian religion, and was crowned at Novogrodek, but soon relapsed into paganism. Under Gedimin, in the earlier part of the 14th century, Lithuania became a powerful state by the conquest of Volhynia, the principalities of Kiev and

Tohernigov, and others. His son and successor, Olgerd, even thrice appeared before the gates of Moscow. The son of the latter, Jagiello, who married Hedvig, the daughter of King Louis of Poland, becoming king of that country, united with it Lithuania, and converted his hereditary subjects to Christianity. Under the last king of his house in Poland, Sigismund II. Augustus, the two countries were still more closely united in 1569, though Lithuania retained separate armies, finances, and laws.—The LITHUANIAN LANGUAGE, the Lettic, and the now extinct old Prussian, form the Lithuano-Slavic group of the Indo-European family of languages. The Lithuanian is spoken in parts of East Prussia, and of the kingdom of Poland, in Samogitia, and in Lithuania proper. Its close affinity to the Sanscrit and relation to other languages have been established by Bohlen, Bopp, and others. The Latin form of writing was introduced with the religion of Rome. The vowels are the Italian *a, e, i* (or *y*), *o, u*, the pronunciation of which is determined by the use of the 3 French accents (‘, ‘, ‘), and *ü* (*uo*). The consonants are: *b, c* (as in Polish, the German *c*, like *ts* in English), *č* or *cs* (the Polish *cz*, Eng. *ch*), *d, g* (hard), *i* before vowels (Pol. *j*, Eng. *y* consonant), *k, l, t* (resembling *rl*), *m, n, p, r, s* (as in Polish, and at the beginning of English words), *ś* (Eng. *sh*), *ž, v* (Eng. *v*), *z* (as in Polish and English), *ž* (Eng. *j*). There is no letter *h*. A dropped nasal sound is marked by a little line in the vowels. Like the Slavic tongues and the Latin, the Lithuanian has no article, and 8 genders for nouns and adjectives. There are 7 cases of declension, the same as in Polish: nominative, genitive, dative, accusative, vocative, instrumental, and locative. The noun has 5 forms of declension, depending upon the termination and gender. There are 3 numbers, singular, dual, and plural. The declension of the adjective resembles that of the noun. The comparative degree is formed by *zemia* or *zema*, the superlative by *auzas* or *auza*. The numerals are: *wienas* (Lat. *unus*), *du* (Lat. *duo*), *trys* (Lat. *tres*), *keturi* (Lat. *quatuor*, Pol. *catery*), *penke* (Pol. *pięć*), *seksi* (Lat. *sex*, Pol. *sześć*), *septyni* (Lat. *septem*), *aštuni* (Lat. *octo*, Ger. *acht*), *dewyni* (Pol. *dziesięć*), *dešimti* (Pol. *dziesięć*, Lat. *decem*), &c. The pronouns resemble those of most Indo-European languages. The tenses of the verb are the present, imperfect, perfect, pluperfect, and future; it has conjunctive, factitive, inchoative, frequentative, and reciprocal forms, various participles, and a passive formed by auxiliaries. The language is rich in formatives and particles of every kind. Prepositions govern the cases of declension. Grammars have been published in German by Ruhig (1747), Ostermeyer (1791), Mielcke (1800), and others; dictionaries by Ruhig (1747) and Mielcke (1800); a Polish-Latin-Lithuanian dictionary by the Jesuit Schyrnoid (died in 1681), whose sermons are the earliest extant work printed in the language. There is hardly any Lithuanian literature, the principal productions being pop-

ular songs, religious and liturgical hymns, riddles, and other poetry.

LITMUS, a blue coloring substance, obtained from the lichen *roccella tinctoria*, which is collected on the Canary and Cape Verd islands and the coasts of N. Africa, and brought to Holland. The plants, being cleaned from earthy matters, are coarsely powdered and macerated for several weeks, with occasional agitation, in a mixture of urine, lime, carbonate of ammonia, and carbonate of potash. By the reaction of these substances upon the acid properties of the plants, which are themselves without color, their peculiar coloring matters are developed. The mass as it ferments is first red, and then becomes intensely blue. After this change it is mixed with chalk or other earthy substance to give it consistence, and the preparation is completed by moulding it into little rectangular cakes. In this state it is the commercial litmus. The cakes are of indigo blue or deep violet color, and of friable texture. The coloring matter is extracted by alkalies, partially by water and alcohol. The aqueous infusion is used to prepare the slips of litmus paper, which are employed by chemists as a test of acids and alkalies. Un-sized paper is either dipped into the liquid, or this is brushed over its surface; and when the paper has been dried it is carefully preserved in well stopped vials. A bit of it moistened and exposed to acid vapors, or to any liquid having the slightest acid reaction, is immediately changed from blue to red; and thus changed, it becomes a test of alkalies, the effect of which is to restore its former color. It differs from most other vegetable blues, which by the action of alkalies are generally rendered green.

LITRE, the French elemental unit of liquid and other measures of capacity. It is the cubic *décimètre*, equal to 61.02705 cubic inches, which is nearly $\frac{1}{4}$ or 0.22 of an imperial gallon. The kilolitre is of the capacity of a cubic metre.

LITTA, POMPEO, count, an Italian historian, born in Milan, Sept. 27, 1781, died there, Aug. 17, 1852. Enlisting in 1804 as a common soldier, he attained a high position in the French army, which he left in 1814. Under the revolutionary government of Lombardy in 1848 he officiated for a short time as minister of war and commander of the national guard of Milan. He is the author of *Famiglie celebri Italiane* (1819-'52), containing the history of 75 eminent Italian families, and as renowned for its superb execution as for its historical accuracy.

LITTLE FALLS, a township and village of Herkimer co., N. Y., on the line of the New York central railroad, and on the Erie canal, which here passes through a picturesque defile about 2 miles long; pop. of the township in 1855, 4,980; of the village, 3,984. The Mohawk river has here a fall of 42 feet in $\frac{1}{4}$ of a mile, furnishing great water power. The village contains 4 paper mills, 2 woollen factories, 2 flouring mills, a starch factory, 8 large shoe manufacturing factories, a bank, and 9 churches.

LITTLE ROCK, a city of Arkansas, capital

of the state and of Pulaski co., situated on the S. bank of the Arkansas river, about 800 m. above its mouth, and about the same distance below the point where it enters the state; lat. 34° 40' N., long. 92° 12' W.; pop. in 1860, about 4,000 or 5,000. It is built upon the first bed of rocks that is met with in ascending the Arkansas. Its elevation is not more than 40 or 50 feet; but, about two miles above, the opposite bank of the river rises abruptly into a precipitous range of cliffs, some 400 or 500 feet in height, known as the Big Rock. The name Little Rock is antithetical to this. On some of the earlier maps it is laid down as Acropolis, or Arcopolis. This name was given to it by an act of the territorial legislature, which has never been formally repealed; but it never obtained popular recognition. The growth of the city has been retarded by the lack of facilities for trade with the interior and for communication with other places, and by the fact that the title to a large portion of the ground on which it is built has been in litigation until very recently. The navigation of the Arkansas river is uncertain, and during a great part of the year it is often entirely closed. At present, however, a railroad to Memphis is constructing, and other improvements of the same kind are contemplated. A company has also been organized for the establishment of a line of telegraph to Memphis, with several branches. The state capitol, of brick, stuccoed, occupies a commanding position on the bank of the river. Among other public buildings are the United States arsenal, and Campbellite, Episcopal, Methodist, Presbyterian, and Roman Catholic churches. The state penitentiary is about a mile from the city. There are several flourishing academies and schools, and 2 or 3 weekly newspapers. A gas company has been formed, and it is expected that the works will be in operation in the course of the present year (1860). Quarries of excellent slate are found in the immediate vicinity of Little Rock, and even in the bank on which the town is built. The country around is generally poor, except in the Arkansas bottom. The situation of the city itself is dry, and generally healthful. A brook, forming a considerable valley, flows through the city. There are some handsome private dwellings; and the wide streets, spacious grounds and gardens, and profusion of shade trees and shrubbery, give it, especially in summer, a very pleasant and picturesque appearance. Little Rock was founded about 1820, and in Oct. 1820 was made the seat of the territorial government.

LITTLETON, or LYTTELTON, SIR THOMAS, an English jurist, born in Devonshire early in the 15th century, died in Frankley, Worcestershire, Aug. 23, 1481. His father's name was Westcote, but he substituted for it that of his maternal grandfather. He most probably received his collegiate education at Cambridge, whence he afterward removed to the Inner Temple, where he was nominated reader of law lectures. Henry VI. made him steward (or judge of the court of the palace or marshalsea) of the king's

household, and on May 18, 1455, a king's sergeant, in which capacity he rode the northern circuit as judge of assize. On the deposition of Henry, his successor Edward IV. confirmed to Littleton all the offices and honors he had received from the Lancastrians. In 1466 he was appointed one of the judges of the court of common pleas. His famous treatise on "Tenures," originally written in Norman French, and translated into English in 1539, from the great changes in the law of real property, no longer receives as much attention from the student as formerly. It is a model of logical deduction of consequences from premises; but its symmetry is obscured by the learned commentary of Sir Edward Coke, which usually accompanies it.

LITTORALE, or properly LITORALE (Lat. and It., belonging to the sea shore), the name of two strips of land on the northern shores of the Adriatic sea, of which the eastern, known as the Hungarian Littorale, has often figured as a province in Austrian history. It formerly belonged to the Croatian military district, was converted into a civil district of Hungary by Maria Theresa, formed a part of the French province of Illyria under Napoleon, was retaken by Austria in 1814, reannexed to Hungary in 1828, occupied by the ban of Croatia, Jellachich, in the war of 1848, and attached to that province by Francis Joseph in 1849. Its principal places are Fiume, Buccari, and Porto Re; area about 180 sq. m.; pop. about 25,000.

LITTRÉ, MAXIMILIEN PAUL EMILE, a French publicist and philologist, born in Paris, Feb. 1, 1801. He was educated for the profession of medicine, but his attention has always been given chiefly to philosophical and literary pursuits. After the revolution of July, 1830, in which he was an active participant, he became one of the contributors to the *National* newspaper, the organ of the democratic party, his connection with which lasted until its suppression in 1851. He wrote a number of papers for the *Dictionnaire de médecine*, among which is an important article on Asiatic cholera. In 1837, in concert with M. Dezeimeris, he established a medical and surgical journal, and at the same time was employed in editing and translating the works of Hippocrates. The first volume appeared in 1839, and procured his admission to the academy of inscriptions. Eight volumes had appeared in 1853, and the work is still unfinished. In 1839-'40 Littré published a translation of Strauss's "Life of Jesus." He became a prominent promoter of the doctrines of Auguste Comte, of which he gave a clear synopsis in his work *De la philosophie positive* (Paris, 1845), and which he has defended and elucidated in a series of pamphlets. In 1844 he had been appointed by his colleagues of the institute successor to Fauriel for continuing the *Histoire littéraire de la France*, the 21st, 22d, and 23d volumes of which are indebted to him for important contributions. In 1847 he published in the *Revue des deux mondes* a paper entitled *La*

poète Homérique et l'ancienne poésie Française, with a translation in verse of the first book of the Iliad into the French language of the 18th century, which attracted considerable notice. In 1848 he mingled actively in politics, and held the honorary office of municipal councillor of Paris, and in 1849 published his *Application de la philosophie positive au gouvernement des sociétés, et, en particulier, à la crise actuelle*. In 1854 he was appointed editor of the *Journal des savants*. Among his other works are a translation of Pliny's "Natural History," which appeared in Nisard's *Collection des classiques Latins* (1848); *Conservation, révolution et positivisme* (1852); *Sur la mort de M. Auguste Comte* (1857); *Paroles de philosophie positive* (1859); *Dictionnaire étymologique de la langue Française* (1860).

LITTROW, JOSEPH JOHANN VON, a German astronomer, born in Bischofteinitz, Bohemia, March 13, 1781, died in Vienna, Nov. 30, 1840. He studied at Prague from 1798 to 1798, but in 1807 became professor of astronomy at Cracow. The war of 1809 caused the dissolution of the university there, and Littrow accepted an appointment in that of Kasan. In 1816 he became superintendent of an observatory on the Blockberg in Buda, and some years later professor of astronomy in the university of Vienna. The excellence of the observatory of Vienna is chiefly due to his exertions. He wrote many valuable works on astronomy. His eldest son, KARL LUDWIG, was his assistant from the year 1831, and after his death succeeded him as superintendent of the observatory.

LITURGY (Gr. *leitourgia*, a public act or service), in general, the totality of the prayers and ceremonies which are used by a church for the celebration of divine worship. More commonly, however, it is taken in a narrower sense, and denotes those formularies or books which contain these prayers and ceremonies. Those who administered the liturgy were called in the ancient church *leitourgoi*, a term which denoted in Athens the managers of public spectacles, but was later taken exclusively in an ecclesiastical sense. Some scholars have made the doctrine of liturgies a special branch of practical theology, called liturgics, which contains 3 parts, viz.: dogmatical, or an investigation into the essence and nature of liturgy (divine service); historical, or the history of the various liturgies; and practical, or the application of the results of the two former parts to the present condition of divine worship. Christian liturgies are divided into 8 classes, those of the eastern, of the Roman Catholic, and of the Protestant churches. I. *Eastern Church*. Among the liturgies ascribed to Sts. Peter, Matthew, Mark, and James, the last is the most important. It is the liturgy of the church at Jerusalem. The original may date as far back as the 2d century, but many additions have been made in later times. The liturgy of Mark (Alexandrine liturgy) is ascribed to Cyril of Alexandria, and still forms the main part of the Coptic and Ethiopian

liturgies. A 8d very important liturgy is contained in the Apostolic Constitutions (l. viii.); tradition ascribed it to Clement of Rome, but modern investigations have shown that its origin must belong to a later period. The liturgies of Basil and Chrysostom are revisions of the liturgy of James, and are the main sources of the liturgy of the Russian church. Branches of it are the Armenian and Nestorian liturgies and several others of minor importance. II. *Latin Church*. The first beginnings of the Roman liturgy undoubtedly reach back to the days of the earliest bishops. History can trace them as far as Leo I., or at least Gelasius I. (492-'96). In the language of the church, the word liturgy applies only to the mass. Gregory I. gave it its name, and brought it in main into that shape which it still has. Pius V. in 1570 established it as *Missale Romanum*, which was revised by Clement VIII. and Urban VIII. The Ambrosian liturgy, the palladium of the church of Milan, is referred by tradition to Barnabas as its author. It differs but little from the Roman, and it still remains in use in the churches of Milan. The Mozarabic liturgy in Spain had undoubtedly a very early origin; it was approved by Isidore of Seville and the 4th council of Toledo. The Gallican church had a Gallican liturgy, among the authors of which Hilary of Poitiers is named. It was gradually supplanted by the introduction of the Roman liturgy after the time of the Carolingians. III. *Protestant Churches*. Luther, Zwingli, and Calvin published new liturgical works for the Protestant churches; but in the reformation of divine worship no uniformity was aimed at by them, and a great variety of liturgies prevailed. The liturgies of the 16th century were in the main retained until the close of the 18th century, when the ascendancy of a new theology (rationalism) produced a radical change both in the spirit and the form of divine worship. At the present day the churches of Germany and Switzerland have in many points returned to the liturgy of the 16th century, and the Lutheran theology especially has begun to lay great stress on the liturgical parts of divine service. A number of new liturgies were published, and frequent changes in the state churches took place, which, however, generally gave rise to violent controversies, as most of the advocates of the modern Lutheran liturgies were charged by their opponents with leaning toward the views of the Roman Catholic church.—The most celebrated among the liturgies of the Protestant churches is that of the church of England. The first draft of it was composed in 1547 by a committee of bishops and other learned divines. A new commission finished the whole liturgy by drawing up public offices for Sundays and holidays, for baptism, matrimony, burial, and other special occasions. The liturgy, having thus been compiled, was revised and approved by the archbishops, bishops, and clergy of the provinces of Canterbury and York, and then confirmed by Edward VI. and 3 estates in parliament (1548). In 1550 Arch-

bishop Cranmer proposed a revision, and in accordance with the suggestions put forth by him, by Calvin, and several other learned men, some important changes were made. Some rites and ceremonies which had been retained at first, such as the use of oil in confirmation, the unction of the sick, prayers for departed souls, and the invocation of the Holy Ghost at the consecration of the eucharist, were abolished, and the habits which were prescribed in the former book were also laid aside in this. The liturgy, thus altered, was again confirmed by parliament (1551), with the declaration that the alterations proceeded from curiosity rather than any other worthy cause. Both these liturgies were abolished by Queen Mary in 1558, but the latter was reestablished upon the accession of Queen Elizabeth, with a few alterations and additions aiming at a reconciliation of the parties in the church. Under King James, in consequence of a conference held before him by some bishops and divines of the church of England on the one side and some Puritans on the other, several slight changes were made. An attempt of Charles II. to have a new revision made by a joint commission of Episcopalians and Presbyterians, upon which both denominations might agree, failed. The Episcopal divines of the conference proposed some particular alterations which were agreed to by the whole clergy in convocation. Thus the liturgy was brought to that state in which it still stands in England. It was unanimously subscribed by both houses of convocation of both provinces, Dec. 20, 1661, and confirmed by both houses of parliament in March, 1662. Many petitions have since been made for a revision, but without success. During the last few years a revision has repeatedly been moved in the lower house of parliament, but the bishops have unanimously declared themselves opposed to it.—The first legislative convention of the Episcopal church in the United States, assembled in Philadelphia in Sept. 1786, appointed a committee to propose such alteration in the "Book of Common Prayer" as the American revolution and the constitution of the several states made necessary. The first American edition of the "Book of Common Prayer" was then issued, but never widely introduced. A new revision was made by the convention of 1789, and the "Book of Common Prayer" published in that form in which it is still used.

LIVADIA, the modern name, derived from that of the town of Lebedea, of the northern division of the kingdom of Greece, or of its continental part, though in a wider sense it also embraces the island of Negropont or Eubœa. Beside this island, it comprises the provinces of Attica and Bœotia, Phocis and Phthiotis, and Ætolia and Acarnania—that is, the territory of ancient Hellas proper—being bounded N. by Turkey, E. by the waters of the archipelago under various names, S. by the gulfs of Ægina, Lepanto, and Patras, and the isthmus of Corinth, and W. by the Ionian sea.

LIVER, an organ characterized by the presence of cells secreting bile, and found in some form or other throughout almost the whole animal series. These cells may be scattered over the intestinal canal, restricted within its follicles, contained in elongated branching tubes or cæca, or collected in loosely lobulated masses, as in invertebrates; or they may be clustered together with no immediate relation to the ducts, and be consolidated into a firm and compact organ, as in man and other vertebrates. The liver in man occupies the right hypochondriac and epigastric regions, below the diaphragm; it is above the stomach, duodenum, arch of the colon, gall bladder, and right kidney, and in front of the aorta and lower vena cava. Its size is large, and its normal weight from 3 to 5 lbs.; its form is irregular, being elongated transversely, flattened from above downward, very thick behind and thin in front; its tissue is dense and of a reddish brown color. The upper surface is convex, in contact with the diaphragm, and divided by the suspensory ligament or fold of peritoneum into 2 unequal parts, of which the right lobe is considerably larger than the left. The lower surface is irregularly concave, presenting from left to right a superficial depression corresponding to the upper wall of the stomach; the antero-posterior or longitudinal fissure, which lodges in the fœtus the umbilical vein and the *ductus venosus*, shrunk into mere fibrous cords in the adult; the transverse fissure, at right angles to the preceding, in which are situated the vena portæ, the hepatic artery and canal, and numerous nervous filaments and lymphatic vessels; the short fissure for the vena cava, near the posterior border; the small lobe of Spigelius, an irregularly triangular portion behind the transverse fissure; the 4th lobe, in front of the transverse fissure, the gall bladder lying between it and the *lobulus caudatus*; and on the right lobe, depressions corresponding to the right portion of the transverse colon, and to the right kidney and supra-renal capsule. In the carnivora and rodents, portions of the liver rudimentary in man are highly developed; in these there are 5 distinct parts, a central or principal lobe, and a right and left lateral lobe, each with a lobular appendage. According to Carpenter, the human liver is chiefly composed of the central lobe, the lobe of Spigelius being the rudimentary right lateral lobe and the *lobulus caudatus* its lobular appendage, the left lateral lobe and its appendage being altogether undeveloped. The liver is in great part covered with a shining peritoneal or serous envelope; an investment of areolar tissue also is spread over the organ, extending into the interior, and forming thin but dense sheaths to the vessels and canals, called the capsule of Glisson.—The blood vessels of the liver are the hepatic artery and veins and the vena portæ; in the fœtus the maternal blood is brought to the liver by the umbilical vein; the lymphatics are numerous, and the nerves are supplied from the pneumogastric and phrenic and the hepatic plexus. The

proper tissue of the liver is composed of a great number of granular bodies of the size of millet seed, generally called lobules and sometimes *acini*, of a foliated appearance from the branching distribution of the hepatic veins to the centre of each; in the spaces left between the polygonal lobules lie the branches of the vena portæ, hepatic artery, and duct, each lobule giving the characteristic structure of the organ. The vena portæ, which receives the venous blood from the digestive organs, divides and subdivides in the liver like an artery, till it reaches the interlobular spaces, forming a freely anastomosing network throughout the organ, and constituting the interlobular veins; after ramifying on the capsules they enter the lobules and become lobular veins, their terminal branches ending in the intra-lobular or hepatic vein. The hepatic artery, a branch of the great coeliac axis from the aorta, sends its branches to all parts of the organ, supplying the walls of the vessels and ducts, and the lobules through the interlobular spaces; whether they terminate in the portal plexus or the hepatic vein is still a matter of dispute; this is an interesting physiological question, as in the former case (maintained by Kiernan) its blood can only be subservient to the secretion of bile by passing into the portal plexus, and in the latter (the opinion of Müller) this secretion is to a great extent independent of arterial blood; the weight of evidence seems to be in favor of the former hypothesis. The hepatic veins which occupy the interior of the lobules are called intralobular veins; these converge to form larger vessels, and terminate in a main trunk which pours its blood into the ascending vena cava. The blood of the vena portæ differs from that of the hepatic vein, and both differ from ordinary venous blood. The portal blood is made up of that coming from the walls of the alimentary canal, modified by the digestive process, and of that which has circulated through the spleen. In the early part of the digestive process, the gastric and mesenteric bloods have less solid constituents from the imbibition of liquid, especially in the corpuscles, and a greater relative proportion of albumen; the quantity of extractive is usually increased, and sugar, dextrine, gelatine, and other organic matters are found in solution; the fibrine is not perfectly elaborated, and the albuminous matter is called by Mialhe albuminose, differing from albumen in the facility with which it traverses organic membranes, as in albuminuria and dropsies. The splenic blood, on the contrary, has its red corpuscles diminished, while the albumen and fibrine are increased, though the latter is imperfectly elaborated. According to Bernard, the blood of the hepatic vein contains an increased amount of sugar and fat, both these substances being generated in the liver from amylaceous, saccharine, and even azotized compounds. According to Lehmann, the blood of the hepatic differs from that of the portal vein in having from $\frac{1}{4}$ to $\frac{1}{2}$ less water, in being far richer in blood cells (which are poorer in fat, salts, and

iron, and richer in extractive), in its more bulky and readily breaking clot, and in its denser plasma.—The excretory apparatus of the liver consists of the hepatic, common, and cystic ducts, and the gall bladder, the last of which has been treated under its own title. The hepatic duct arises by very fine twigs upon the outside of the lobules (according to Kölliker), the bile secreted in their interior being transmitted outward from cell to cell as fluids are in the closed cells of plants; from the interlobular spaces they unite to form larger and larger branches, until they become 2 principal trunks, one from each lobe, which unite at a right angle in the transverse fissure; the duct is about $1\frac{1}{2}$ inches long and 2 lines in diameter, descending inward and joining the cystic duct, which is a continuation of the neck of the gall bladder. These two by their union form the common duct (*ductus communis choledocus*), about $3\frac{1}{2}$ inches long, and opening into the last curvature of the duodenum. The biliary cells are of a flattened spheroidal form, from $\frac{1}{150}$ to $\frac{1}{300}$ of an inch in diameter, each nucleated and containing yellow amorphous biliary matter, with oil globules varying in number according to the nature of the food and other circumstances, an abnormal accumulation giving rise to the condition called "fatty liver." The venous blood of the liver contains not only fat but sugar, these being generated in the organ from farinaceous and even from nitrogenized compounds; the production of fat is to a certain extent vicarious with that of sugar, the former being characteristic of herbivorous and the latter of carnivorous animals.—For details on the structure of the liver, see the memoir by Mr. Kiernan in the "Philosophical Transactions" for 1833; Todd's "Cyclopædia of Anatomy and Physiology," article "Liver;" Dr. Leidy's memoir in the "American Journal of Medical Sciences," Jan. 1848; and Carpenter's "Physiology," and the works there referred to.—The liver performs the double function of assimilation and secretion, having the structural characters of both the vascular and ordinary secreting glands; the blood in passing through it not only becomes purified by the elimination of the biliary secretion, but its albuminous constituents are more highly elaborated; there is also evidence that the liver is subservient to the vital transformations of the components of the blood. The properties and physiological importance of the biliary secretion are given in the article BILE, and its course and action in the digestive process under CHYLE, CHYME, DIGESTION, and GALL BLADDER. Some of the pathological conditions of the liver have been noticed under CONGESTION. Cirrhosis is a granular degeneration of the lobules, often the result of inflammation; the organ is contracted, denser in structure, with the surface roughened by projections varying in size from a pin's head to a hazel nut, and of a yellowish color; one form is very common among spirit drinkers. The disease called fatty liver is frequent in phthisis and other diseases of de-

ficient respiration, and is a sign of inactivity rather than of increased action of an organ which has some of the functions of the lungs to perform; still there is an undoubted connection between deficiency of respiration and the presence of fat in the liver, discernible throughout the animal series. The retention of the materials of the bile in the blood acts like a poison upon the nervous system, and, if the suspension of the secretion be complete, death soon takes place; much of the cerebral disturbance accompanying dyspepsia, some forms of which are popularly called "liver complaint," is doubtless due to deficiency of the biliary secretion and the non-elimination of certain deleterious constituents. In certain climates and constitutions there is a constant tendency to bilious congestion, and this, in many cases, not so much from functional inactivity of the liver as from an excess of excrementitious matters brought to it in the form of stimulating hydro-carbonaceous food and drink, which indisposes to the active exercise which increases the amount eliminated from increased respiration; this points to the hygienic treatment of such cases, in preference to stimulating the liver to abnormal activity by mercurial and similar preparations. The liver is relatively very large in the fœtus, in which it can serve neither the purposes of respiration nor digestion; it must act here as a purifier of the blood. In ordinary cases of jaundice the bile is properly secreted, but from obstruction of the ducts the flow into the intestinal canal is more or less interfered with, and it is consequently reabsorbed into the blood; this is far less injurious than the retention of the materials and non-secretion of the bile. The liver, then, is an assimilating organ, assisting in the conversion of nutriment into blood and solid tissues; it is also a secretory organ, separating the hydro-carbonaceous compounds, which are superfluous or effete, under the forms of sugar, fat, and bile; the first two, if not at once removed by the blood, remain stored in the liver as food for respiration, while the latter performs its office in the digestive process, after which it is in great part reabsorbed, and its oxidated components eliminated as water and carbonic acid by the lungs, and as sulphuric acid by the kidneys.

LIVERMORE, ABEL ASBOT, an American clergyman, born in Wilton, N. H., Oct. 30, 1811. He was graduated at Harvard college in 1833, studied in the Cambridge divinity school, and was ordained as pastor of the Unitarian church in Keene, N. H., Nov. 2, 1836. This connection was dissolved in May, 1850, when he became pastor of the Unitarian church in Cincinnati, which office he held till the summer of 1856. He became editor of the "Christian Inquirer" in New York, Jan. 1, 1857, and in June of the same year pastor of the first Unitarian Congregational church in Yonkers. His principal works are: "The Four Gospels," with a commentary (2 vols., Boston, 1841-'2; Belfast, Ireland, 1844); "The Acts of the Apostles," with a commentary (Boston, 1844; London, 1846); "Lectures

to Young Men on their Moral Dangers and Duties" (1846); "The Marriage Offering," a compilation of prose and poetry (1848); "The War with Mexico Reviewed," a prize essay (1850); "Discourses" (1854); "Christian Hymns," a compilation in conjunction with other editors (5th ed. 1859). He has also contributed to the "North American Review," "Christian Examiner," "Christian Repository," and other periodicals.

LIVERPOOL, a borough town, and the principal seaport of England, situated in Lancashire, on the river Mersey, 4 m. above its mouth in the Irish sea, 201 m. by railway N. W. from London and 31 m. W. by S. from Manchester; pop. in 1851, 375,955; in 1860, estimated as high as 600,000. Its contiguity to the ocean and to the British manufacturing districts, as well as the enterprise of its inhabitants, gives to Liverpool a foremost position in the trade of the world. Nearly one half of all the products exported from England are shipped from this port. According to the board of trade returns, the exports, exclusive of foreign and colonial produce, and solely of British produce and manufactures, were valued in 1858 at nearly £51,000,000, and in 1857 at a little over £55,000,000. The principal articles exported in 1858 were: cotton manufactures, £22,300,000; woollen manufactures, £5,600,000; iron and steel, £3,700,000; cotton yarn, £2,800,000; linen manufactures, £2,500,000; hardware and cutlery, £1,900,000; haberdashery and millinery, £1,600,000; tin, £1,200,000. There are 6 articles of which more than half the entire imports into the United Kingdom were brought to Liverpool, viz.: cotton, madder, palm oil, bacon, lard, and rice. The registered shipping belonging to the port in 1856 was 2,040 sailing vessels, tonnage 830,000, and 180 steam vessels, tonnage 58,300. In 1860 the total tonnage will probably reach 1,000,000. The amount of custom house duties received in 1855 was £3,530,913; 1856, £3,816,076; 1857, £3,621,409; 1858, £3,622,508. The entrances of British and foreign vessels coastwise with cargoes in 1856 was 9,569, tonnage 1,455,162; and the clearances 10,348, tonnage 1,373,911. The principal transactions with the United States arise from the cotton, flour, grain, and provision business, and from the exportation of manufactured goods. The exports of cotton to Great Britain, chiefly to Liverpool, were 2,450,000 bales in the year ending April 11, 1860, 2,019,000 in 1859, 1,810,000 in 1858, and 1,429,000 in 1857. There are sugar refineries and other manufactures in Liverpool, and that of soap is most extensively carried on. Ship building is also a profitable source of activity, and not only sailing vessels and steamers, but government ships of war are occasionally launched from the slips in the different parts of the town. The bulk of the 5,000,000 emigrants who left the shores of Great Britain from 1815 to 1860, sailed from Liverpool. Even the tide of German emigration flows now through Liverpool in preference to

Hamburg and Bremen.—The splendid docks of Liverpool cover a space of 400 acres of water along the Mersey, and extend on the Liverpool side of the river a distance of 5 m., and 2 m. on the Birkenhead side. The lineal quay space on the Liverpool side is 15 m., and on the Birkenhead side it will be when completed 9 m. The amount of capital invested in the docks is £10,000,000, of which £7,000,000 is in Liverpool proper. The sea wall along the Liverpool side, by which shipping in the docks is protected against the elements, is a stupendous work, upward of 5 m. in length, 11 feet in average thickness, and 40 feet in average height from the foundations. Upward of 80 pairs of gates have been erected within the last 30 years, some of which reach to the enormous width of 100 feet. (See Docks.) On Jan. 1, 1858, when the Mersey docks and harbor act came into operation, the tonnage dues, which up to that time had to be paid by all vessels entering the port whether they used the docks or not, were abolished, so that no vessel or steamer, entering the river Mersey and not going into dock, has now any other dues to pay than those appertaining to lights, buoys, or anchorage. The receipts and disbursements of dock and light dues have amounted within the last few years respectively to about £1,200,000 annually.—Liverpool resembles in its bustle and animation more an American than an English town. It has wonderfully improved within the last 50 years, and contains now a number of wide and handsome streets. Many of the principal avenues diverge from the open space partly occupied by St. John's church and the railway station; as Dale street, running S. W. to the town hall and exchange buildings, and continued under the name of Water street to St. George's docks; Whitechapel and Paradise street, leading to the custom house; Lime street, Renshaw street, Berry street, and Great George street, running almost S. in the direction of Toxteth park and the London road, following an eastward course toward the zoological gardens. Other principal streets are Castle street, opposite the town hall; Lord street, Church street, Hanover street, Bold street, Rodney street, Mount Pleasant, St. Anne's street, and Vauxhall road. The best known squares are St. George's, Queen's, Abercrombie, Clayton, and Cleveland. The town is abundantly supplied with water and gas. Meat, poultry, fruit, and garden vegetables are daily sold in St. John's market, which covers an area of 1½ acres, being 550 feet long and 185 wide, and supported by 116 pillars. There are other market places in different parts of the town. Among the principal public buildings is the custom house, in the Ionic style, with a lofty dome, and the town hall, with statues of Canning and of Roscoe by Chantrey. The exchange buildings form 3 sides of a square, of which the town hall constitutes the 4th. The quadrangular area, with a monument in honor of Nelson, is used as an exchange, and presents in business

hours a most animated appearance. On the E. side of this exchange area is a news room filled with the principal journals of the world, and above it are the underwriters' and cotton sales rooms. The W. and N. sides are occupied by the American and Liverpool chambers of commerce and by merchants' counting houses. Most of the business of Liverpool is transacted in this vicinity. There is a distinct market for the corn trade in Brunswick street.—The most celebrated public building in Liverpool is St. George's hall, opened in 1851; it is a commanding edifice in the Corinthian style, with columns 45 feet high, and having two large rooms appropriated for the holding of assizes, and the great hall 161 feet long and 75 in width and height, used for public meetings, concerts, &c. The sailors' home, adjacent to the custom house, commenced in 1846, was a fine building, which cost £30,000; it was burned April 29, 1860. There are over 50 churches belonging to the established church, and as many to other Protestant denominations; also a number of places of worship for Roman Catholics and Jews. The principal educational institution is the elegant Church of England college, fronting Shaw street, with ample provision for many branches of instruction, a sculpture gallery, a music hall, a laboratory, and a lecture hall holding over 2,000 persons. It was built in the Tudor style from a design of the architect of St. George's hall, the late Mr. Elmes. The foundation stone was laid in 1840 by Lord Stanley, now earl of Derby. It comprises 3 distinct day schools, and evening schools for adults. There are many other schools, several of which are attached to the mechanics' institution and to the royal institution. The latter owes its formation to the exertions of Mr. Roscoe, who was born near Liverpool, and contributed much to encourage among his townsmen a taste for literature and the fine arts. There are also schools for the deaf and dumb and the blind, and numerous charitable schools. The royal institution possesses a museum of natural history and collections of fine arts, mineralogy, &c. There are associations for the promotion of the various branches of science, literature, and art, and a philharmonic society which is in a very flourishing condition. The foundation stone of a free library and museum, to which Mr. William Brown contributed £30,000, was laid in 1857; and Mr. Joseph Mayer has offered to deposit in it his extensive collection of Egyptian and other antiquities and articles of *virtu*, the money value of which is estimated at nearly £40,000. The new museum will also be enriched by the donations and bequests of the late earl of Derby, and by the now existing collections in the different museums of the town. Liverpool abounds with institutions for the relief of the distressed sick, and for the reform of criminals, and with well attended public baths, wash houses, and drinking fountains. There are several theatres and music halls in the town, a botanic garden at Edgehill, and a zoological garden in West Derby road, whose

attractions have been increased by the munificence of the late earl of Derby. The hotels of Liverpool, as the Adelphi, &c., present extraordinary scenes of excitement on the arrival of American steamers with their loads of passengers. The necropolis on Low hill near the zoological gardens, and the St. James cemetery, with the remains and statue of Mr. Huskisson, are the principal burial places. St. James's walk, near the cemetery, and the Princes' parade on the river bank, are well kept promenades. The environs are dotted with many elegant residences of the opulent merchants and the nobility, as Knowsley hall, belonging to the earl of Derby; Croxteth park, to the earl of Sefton; Childwall hall, to the marquis of Salisbury; Speke hall, to R. Watt, Esq.; Hale hall, to I. T. Blackburne, Esq., &c.—The parliamentary borough of Liverpool is governed by 16 aldermen and 48 councillors, one of whom is mayor, and returns 2 members to the house of commons (in 1860, Joseph C. Ewart, a liberal, and Thomas B. Horsfall, a conservative politician). The church livings are in the archdeaconry of Liverpool and diocese of Chester. The corporation of Liverpool is distinguished for its wealth and liberality. The value of the corporation estates is estimated at £3,000,000. There are over 80 consuls of foreign nations resident in Liverpool.—The first authentic record relative to Liverpool is contained in a charter of Henry II. (1178), in which the privileges of a seaport are conferred upon the town. King John granted to it a municipal charter, Aug. 28, 1207. It was constituted a free borough by Henry III. in 1227. It continued, however, in a state of stagnation for many centuries. During the contest between Charles I. and his parliament the town held out for the latter nearly a month. Having been finally taken by Prince Rupert, a great number of the inhabitants perished by the sword, and others soon afterward by pestilence and famine. Its population in the middle of the 17th century was insignificant, and was not much above 5,000 in 1699, when the town, which up to that time had been a chapelry attached to the parish of Walton, became an independent parish. The budding manufactures of Lancashire, Yorkshire, and Cheshire, and above all the plantations and the rise of America, gave a powerful impetus to its commercial activity, and the profitable and conspicuous part taken by the merchants and ship owners of Liverpool in the slave trade added considerably to the wealth of the town. The imports of American cotton, consisting of 5 bales in 1785 and 100 in 1787, rose to 100,000 in 1801, and now sometimes exceed 2,000,000 bales annually. The entrances in 1757 were about 1,400; in 1800, nearly 5,000; in 1880, 10,000; and in 1880 they will probably reach about 25,000 vessels. At the beginning of the 18th century Liverpool possessed only one single dock. Between 1830 and 1860 over 25 new docks and basins were opened, and several are now in course of construction; the corporation purchased in 1854

the Birkenhead dock and estates for about £1,100,000, and are now actively engaged in making these docks available for the constantly increasing demands of trade. The railway to Manchester was commenced in 1826; in 1829 the directors awarded a prize for the speed of Stephenson's locomotive engine; the railway was opened Sept. 15, 1829, and in 1837 also that to Birmingham. The London railway was completed Sept. 17, and that to Preston Oct. 31, 1838. At present Liverpool is the focus of a net of railroads encircling the whole United Kingdom. A telegraph line from Holyhead to Liverpool was opened April 18, 1860. The first California gold was received in Liverpool, June 21, 1849; California and soon afterward Australia gave another stimulus to the energy of the inhabitants. The Australian trade is steadily increasing, and promises to make of Liverpool the greatest wool market in the world. After the abolition of the monopoly of the East India company in 1833, Liverpool began to rival London in the trade with the East. On the whole, however, the town may be said to have advanced in proportion to the progress of the United States, upon the trade with which country the prosperity of Liverpool is chiefly dependent.

LIVERPOOL, CHARLES JENKINSON, 1st earl of, a British statesman, born May 16, 1727, died Dec. 17, 1808. He was the eldest son of Col. Charles Jenkinson, was educated at the Charterhouse, and at University college, Oxford, and entered parliament in 1761 as member for Cockermouth. In the same year he was appointed under secretary of state, and in 1778 secretary at war, a position which he retained until the close of Lord North's administration. Adhering thenceforth to the party of Mr. Pitt, he was appointed in 1784, under his auspices, president of the board of trade. After 17 years' tenure of this office he retired in 1801. He was a man of respectable attainments, but was to an unusual degree the object of popular dislike on account of his supposed undue influence with the king. He is the author of several political works, the most important of which is "Discourse on the Conduct of Great Britain with respect to Neutral Nations" (3 vols. 8vo., 1785), of "Treaties between Great Britain and other Powers, 1649-1783" (3 vols. 8vo., 1785), and "Treatise on the Coins of the Realm" (Oxford, 1805), the preparation of which occupied him subsequent to his retirement from office. He was created Lord Hawkesbury in 1786, and in 1796 earl of Liverpool.—**ROBERT BANKS JENKINSON**, 2d earl of, eldest son of the preceding, born June 7, 1770, died Dec. 4, 1828. He was educated at the Charterhouse and at Christchurch college, Oxford. In 1790, before he had attained his majority, he was elected to parliament as member for Rye, and upon taking his seat in the succeeding year proved himself a ready debater, and an efficient supporter of the ministry. Upon the retirement of Mr. Pitt in 1801 he was appointed foreign secretary in the Addington cabinet, in

which capacity he conducted the negotiation which terminated in the treaty of Amiens. Upon the return of Pitt to power he took office as home secretary, and in the latter part of 1803 was called to the house of peers as Lord Hawkesbury, in virtue of his father's barony of that name. The death of Pitt interrupted his official career, and although offered the premiership he preferred to remain in opposition during the Fox and Grenville administration. Upon its dissolution he again declined to form a ministry, but returned to his former post, which he retained until the assassination of Mr. Perceval. At the request of the prince regent, whose fullest confidence he always enjoyed, he then accepted, although with reluctance, the vacant premiership. His administration extended from 1812 to 1827, a longer period than that of any other modern British premier, except Walpole and Pitt, and was rendered permanent and successful mainly through the efforts of Castlereagh and Canning in the foreign office. The military successes of England brought him at the outset considerable popularity; but the distresses which followed after the war, and the severe measures which government adopted to repress internal disturbances, subsequently aroused against him a strong feeling of dislike, which was increased by the introduction of the bill of pains and penalties against Queen Caroline. To liberal opinions he was always steadfastly opposed, and his efforts, extending over a period of more than 30 years, greatly contributed to retard Catholic emancipation, parliamentary reform, the emancipation of the slaves in the West India colonies, and other kindred measures. His private character was above reproach, and few ministers holding such extreme views have been more respected by political adversaries. He was attacked by paralysis, Feb. 17, 1827, and passed the last three months of his life in a state of utter helplessness and mental imbecility.

LIVERWORTS, the common name of certain cellular cryptogams, constituting the natural order *hepaticæ* or *Jungermanniaceæ*, ranking next to the lichens, and in a higher development of their several organs foreshadowing the true mosses or *musci*. They grow on the ground or on trees and decaying wood in damp places, having an axis or stem which sends out roots from its under side, and which is furnished with distinct leaves, or else with leaves so intimately united to each other as to assume the form of a frond, the epidermis of which is pierced with stomata. The tissue is eminently and loosely cellular. The reproductive organs, differently situated in different species, are of two kinds, viz.: the *antheridia* or male-like flowers, and the *pistillidia* or female-like flowers. From the *pistillidia* originate the capsules or fruit-bearing organs, which contain spores or seed-like bodies, whose germination and primary growth are similar to those of the ferns. The liverworts are natives of all climates where there is sufficient moisture and shade. In an economical point of view they are of very little

known utility. Some are slightly fragrant, with a sub-acrid taste. De Candolle conjectures that the larger kinds would be found to resemble the foliaceous lichens in their qualities. The term liverwort is derived from the superstitious idea that they must be efficacious in complaints of the liver, from a fancied resemblance to that organ which some of them were supposed to bear. According to Burnett, the *Marchantia* is still retained in Germany as an official plant, and in parts of England and Ireland the liverworts have always maintained their reputation. The liverworts were first distinctively noticed by Micheli in 1729. Since the publication of Linnæus's *Species Plantarum* (1758), when there were only 44 species known, the number has greatly increased; and, according to Montagne, the number of known species in 1842 was more than 600. The names of the most distinguished naturalists are connected with their investigation, structure, classification, and enumeration. The arrangement of Nees divides the liverworts into the following tribes: 1, *Jungermanniaceæ*; 2, *Marchantiaceæ*; 3, *monocleaceæ*; 4, *anthoceroceæ*; 5, *Ricciaceæ*. Each of these tribes is again divided into a number of subtribes. The *Jungermanniaceæ* are called scale mosses from their resemblance to the true mosses, and have either a frondose vegetation, i. e., the stem and leaves confluent in a frond, or a foliose vegetation, i. e., the stem and leaves distinct. The fruit is solitary, capsule-formed, and 4-valved (rarely more), and contains within it numerous seeds (spores) borne among spiral threads (elaters) which serve to disperse the seeds by their elastic properties. The *Marchantiaceæ* have a frondose vegetation; the capsules are numerous, and are suspended beneath a stellar, peltate, stalked receptacle; on bursting they do not regularly dehisce into 4 valves; the elaters are present, and the spores are mixed among them. The *monocleaceæ* have a somewhat thickened, coriaceous-foliaceous, succulent, flat, procumbent vegetation; the capsules are univalved, opening on one side only; they are peduncled, and spring from the edge of the frond; the seeds are numerous and lodged among the elaters. The *anthoceroceæ* resemble the last; the frond is small; the capsules spring from the central portions of the frond, and are borne upon tall peduncles ending in a two-valved part, and bearing within numerous spores lodged around a central column; the elaters are wanting. *Ricciaceæ* have the capsules immersed in the frond; they are of a globular shape and valveless, with both column and elaters deficient. The liverworts of the northern United States have been treated by Sullivant in Gray's "Manual of Botany," giving 123 species. They are to be met with in almost every situation—near springs of water, in the beds of rivulets which become dry in summer, on wet rocks, on the faces of cliffs in exposed situations, and on the bark of trees; they vary in size, from a length and breadth of several inches to almost microscopical proportions. There are several other frondose

liverworts, which, if gathered at the time of the development of the fruit, can be watched by placing them under a bell glass covering a little water in a saucer in which the plants are placed; they thus afford an interesting spectacle in the rapidity with which they grow, and in the delicacy of their fruit-bearing apparatus.—See Schwägrichen, *Historia Muscorum Hepaticarum Prodrum* (Leipsic, 1814); Hooker, "British Jungermannias" (2 vols. fol., London, 1818, a beautifully illustrated work); Schweinitz, *Hepaticas Americae Septentrionalis* (Raleigh, N. C., 1821); Nees von Esenbeck, *Hepatica Japonica* (Breslau, 1831), and *Naturgeschichte der Europäischen Lebermoose* (4 vols. 8vo., Berlin and Breslau, 1833-'8); Montagne, *Essai d'organographie de la famille des hépatiques* (Paris, 1845); *Hepatica*, in "Catalogue of Plants of Cincinnati," by Thomas G. Lea (1849), and in "Memoirs of the American Academy," new series (1850); Sullivan, in Gray's "Botany of the Northern United States" (New York, 1856), &c.

LIVERY, the distinctive dress delivered by masters to their servants. The term is derived from the French *livrée*, a word designating the clothes given by the early kings of France to their dependants, or from the custom of cavaliers distinguishing themselves at tournaments by wearing the livery or badges of their mistresses. The liverymen of London are the freemen of the 81 city companies, embracing the various trades of the metropolis, and who are so called from their privilege of wearing the livery of their companies.

LIVERY OF SEISIN (Fr. *liverie de seisin*; Lat. *deliberatio* or *traditio seisinæ*). A change of possession naturally accompanies, as it is indeed the best evidence of, a transfer of property. Personal chattels may be corporeally exchanged; but the alienation of immovable property must be certified by some ceremony or act sufficient to express the change of ownership. Under the system of feudal tenures, the possession of lands was delivered by the lords to their vassals, by the solemn and public act of investiture. This ceremony took place upon the land itself, in the presence of the peers of the lord's court, and, originally, by merely personal acts, without writing. The possession which complete investiture gave to the vassal was called his seisin, and this delivery of it by the superior was the livery of seisin. The design of the ceremony was to notify the transmission of the fee from one hand to another. For the lord, the peers of his court could bear witness to the obligations of servitude which the vassal had assumed, and to the conditions and limitation of the gift, if any had been annexed to it. For the tenant, they could testify to the fact of the grant in the event of a dispute respecting the freehold, and, in other respects, their testimony sufficed to assure his rights. But to make the evidence of these rights more certain, and to define more exactly the conditions of the fact, writings came to be introduced, declaring the tenor and terms of the investiture. In the gen-

eral feudal law, such writings were called *brevia testata*; that is to say, short written memoranda, attested by witnesses. They bore no date, nor were they executed or sealed by the parties themselves; their authority rested altogether in the testimony of the witnesses. When then, in England, some more precise evidence of the agreement between lord and tenant had come to be required than the mere parol testimony of the peers of the court, these *brevia testata* were imitated, and a charter of feoffment (*charta de feoffamento*) was executed and delivered to the new possessor of the lands, at the same time with the livery of seisin. This charter of feoffment was the evidence of the gift or grant, and the livery of seisin was only the transfer of the possession. Livery was of two kinds: livery in deed, and livery in law. The former was made, in the words of Sir E. Coke, "by delivery of the ring or haspe of the doore, or of a branch or twigge of a tree, or of a turfe of the land, and with these or the like words, the feoffor and feoffee both holding the deed of feoffment, and the ring or haspe, and the feoffor saying: 'Here I deliver you seisin and possession of this house, in the name of all the lands and tenements contained in this deed, according to the form and effect of the deed.'" Livery in law was not upon the land, but in sight of it, and the feoffee's title was not good until the livery was perfected by his actual entry upon the land during the feoffor's life. These charters of feoffment which accompanied livery of seisin were in early times but rarely signed. Sealing however became common, and nearly universal, and imported the assent of parties to the instrument thus attested. This custom of affixing a seal remained long after the occasion for it had passed away, and founded the present rules of law in this respect. As these written charters or deeds (for they are nothing else) became more perfect, the more formal ceremonies of investiture were dispensed with. The doctrine of seisin, however, maintained its place in the English law until very lately. In respect to descents its importance was modified by the statute 3 and 4 William IV.; and in regard to conveyances, lands might still be conveyed by a verbal contract alone, provided it was attended with public delivery of possession, until the latter part of the reign of Charles II., when the statute of frauds and perjuries enacted that there must be thenceforth some evidence in writing to support the grant. (See FRAUDS, STATUTE OF.) From this time forward until the statute 7 and 8 Victoria, c. 76, it was still possible to convey land by deed of feoffment and livery of seisin, though indeed this method was generally displaced by the forms of conveyance which had been framed upon the statute of uses.—Livery of seisin is entirely foreign to the American system of conveyances. Under the laws for the registration of the evidences of title, the record alone of a deed gives all that notoriety to the transfer of property which was the essential object of a public delivery of the possession. In-

deed, it is the general doctrine that registration is designed as a substitute for livery of seisin. In this country, therefore, a deed properly executed, delivered, and recorded, gives seisin in deed without entry; nor, generally, is the entry of an heir required to give him actual seisin.

LIVIA DRUSILLA, the wife of the emperor Augustus, born in 56 or 54 B. C., died in A. D. 29. She was the daughter of Livius Drusus, and was married first to Tiberius Claudius Nero, who, having fought against Octavius in the Perusinian war, was afterward compelled to divorce his beautiful wife in favor of the victorious triumvir. She had already borne her husband the future emperor Tiberius, and a few months after her 2d marriage she bore another son, Drusus. She retained the affections of the emperor, by whom she had no children, till his death, owing to her fidelity, fascinating manners, and indulgence of conjugal derelictions on his part. She was skilled in the arts of dissimulation, and stands accused of having caused by foul means the deaths of various persons of the family of her husband who stood in the way of the succession of her own children. She was even suspected of having hastened by poison the death of Augustus himself. On the accession of Tiberius, when she believed she had finally attained the aim of her desires, imperial sway, she soon learned that she had misunderstood the disposition of her son, whose jealousy removed her from the court, and whose hatred persecuted her even after her death.

LIVINGSTON, the name of counties in 6 of the United States. I. A W. co. of N. Y., watered by the Genesee river and a number of creeks, and traversed by the Genesee valley canal and several railroads; area, 509 sq. m.; pop. in 1855, 39,256. Its surface is an upland, rolling in the N. and hilly in the S., and its soil is of exceeding fertility. It contains Conesus and Hemlock lakes, and mineral springs at Avon, a well known watering place. The productions in 1855 were 1,094,779 bushels of wheat, 481,464 of Indian corn, 261,990 of oats, 123,255 of barley, and 132,256 of potatoes. There were 35 saw mills, 13 furnaces, 7 tanneries, 8 paper mills, 4 newspaper offices, 86 churches, and 14,255 pupils attending public schools. Capital, Geneseo. II. A S. E. parish of La., intersected by the Tickfah river; area, 780 sq. m.; pop. in 1855, 3,958, of whom 1,140 were slaves. Lakes Maurepas and Pontchartrain are on its S. E. border. It has a level surface and a moderately fertile soil. The productions in 1855 were 861 bales of cotton, 227 hhds. of sugar, 352 barrels of molasses, 65,085 bushels of Indian corn, and 595 barrels of rice. Capital, Springfield. III. A W. co. of Ky., separated from Ill. on the W. by the Ohio, bordered on the S. by the Tennessee, and intersected by the Cumberland river; area, 245 sq. m.; pop. in 1850, 6,578, of whom 1,118 were slaves. The productions in 1850 were 331,436 bushels of Indian corn, 25,718 of oats, 41,200 lbs. of tobacco, and 5,888 of wool. There were 9 grist

mills, 3 saw mills, 8 tanneries, 14 churches, and 447 pupils attending public schools. Capital, Smithland. IV. A S. E. co. of Mich., drained by Huron, Shiawassee, and Red Cedar rivers; area, 576 sq. m.; pop. in 1850, 13,485. The surface is undulating, and the soil, which consists of a rich black sandy loam, is very fertile. The productions in 1850 were 304,588 bushels of wheat, 174,022 of Indian corn, 87,609 of oats, and 89,991 lbs. of wool. There were 11 grist mills, 8 saw mills, 4 iron foundries, 8 churches, and 4,465 pupils attending public schools. Capital, Howell. V. A N. E. co. of Ill., drained by the Vermilion and Mason rivers; area, 1,026 sq. m.; pop. in 1855, 4,606. The surface is undulating and the soil fertile. The productions in 1850 were 15,577 bushels of wheat, 129,785 of Indian corn, 25,409 of oats, and 6,815 lbs. of wool. There were 3 saw mills, and 200 pupils attending public schools. The Chicago and Mississippi railroad passes through the county. Capital, Pontiac. VI. A N. W. co. of Mo., watered by Grand river and its branches the Crooked Fork and Medicine and Shoal creeks; area, 510 sq. m.; pop. in 1856, 6,495, of whom 658 were slaves. The surface is level and the soil fertile. The productions in 1850 were 32,233 bushels of wheat, 270,270 of Indian corn, 89,861 of oats, and 13,558 lbs. of wool. Capital, Chillicothe.

LIVINGSTON, the name of a family which has possessed considerable social and political influence in the province and state of New York, and various members of which have been distinguished in American history. John Livingston, the common ancestor of the family, and a lineal descendant of the 4th Lord Livingston, was an energetic preacher of the reformed church in Scotland, and, having been banished in 1668 for nonconformity to prelatical rule, took refuge in Rotterdam, where he died in 1678. Of his 7 children, his son Robert emigrated to New York about 1675, and in 1686 received from Gov. Dongan a grant of a large tract of land, which was in 1715 confirmed by a royal charter of George I. erecting the manor and lordship of Livingston, with the privilege of holding a court leet and a court baron, and with the right of advowson to all the churches within its boundaries. This tract embraced large portions of what are now the counties of Dutchess and Columbia, N. Y., and is still known as the Livingston manor, though the greater part of it has long since passed out of the hands of the family. He was a man of influence in the colony, and procured the fitting out of the ship with which Capt. Kidd undertook to restrain the excesses of the pirates. He was connected by marriage with the Schuyler family, and had 3 sons, Philip, Robert, and Gilbert, from whom the most distinguished members of the family in America are descended. I. PHILIP, a signer of the declaration of independence, son of Philip and great-grandson of John Livingston, born in Albany, N. Y., Jan. 15, 1716, died in York, Penn., June 12, 1778. He was graduated at

Yale college in 1787, subsequently embarked in business in the city of New York, and between 1754 and 1758 served in the capacity of alderman. In the latter year he was returned to the colonial house of assembly from the city of New York, and continued a member of that body until 1769, when in consequence of his strong whig views he was unseated by the tory majority. He was chosen a member of the first and second continental congresses, and affixed his signature to the declaration of independence. He subsequently served in the New York provincial congress, in the state assembly and senate, and at the time of his death was a delegate from New York to the continental congress then sitting in York. He was one of the purest and most devoted patriots of the revolution, and rendered important service to the country in his legislative capacity. II. WILLIAM, LL.D., governor of New Jersey, brother of the preceding, born in the province of New York in Sept. 1723, died in Elizabethtown, N. J., July 25, 1790. He was graduated at Yale college in 1741, and subsequently became an eminent member of the bar in New York and New Jersey. Having early espoused the cause of the colonies, he was elected a delegate to the first continental congress from the latter province in 1774, and after the deposition of William Franklin in 1776 succeeded to the office of governor, which he retained to the close of his life. He was an upright public magistrate and a devoted republican, and during the period in which the Jerseys were the principal seat of the war was indefatigable in his efforts to keep the militia in a state of efficiency. In 1787 he was a delegate to the convention which framed the federal constitution. He was the author of a poem called "Philosophical Solitude," a funeral oration on President Burr of Princeton college, and a variety of political and miscellaneous tracts. III. BROOKHOLST, LL.D., a soldier and jurist, son of the preceding, born in New York, Nov. 25, 1757, died in Washington, March 18, 1823. He was graduated at Princeton college in 1774, and in 1776 became a member of the family of Gen. Schuyler, whom he attended in the capacity of aide-de-camp during the operations of the army in the north. He was subsequently attached to the suite of Gen. Arnold with the rank of major, was present at the surrender of Burgoyne, and before leaving the army was promoted to a colonelcy. In 1779 he went to Spain as private secretary to Mr. Jay, who had married his sister. Returning home after 3 years' absence, he studied law, was admitted to the bar in 1783, was appointed judge of the supreme court of the state of New York in Jan. 1802, and in Nov. 1806 was raised to the bench of the U. S. supreme court. He enjoyed a distinguished reputation as an advocate, a judge, and a scholar. IV. ROBERT R., a statesman and jurist, grandson of the second Robert Livingston, born in the city of New York in 1747, died Feb. 26, 1813. He was graduated at King's (now Columbia) college in 1765. He studied and practised law in New

York, and in 1778 was appointed recorder of that city, a judicial office of which he was soon deprived on account of his participation in the measures which ended in the declaration of independence. He was a member of the second continental congress, and was one of the committee of five appointed to draft the declaration of independence. He was prevented from signing that instrument by a necessary absence from Philadelphia; but he furthered the cause with zeal and efficiency throughout the war, being a member of congress again in 1780, and secretary of foreign affairs for two years commencing in Aug. 1781. He was also a leading member of the Kingston convention which framed the first constitution of the state of New York, adopted in April, 1777. Thereupon he was appointed the first chancellor of that state, and held the office till 1801, acquiring in it a high reputation as a jurist, though his decisions have not been regularly reported or preserved. The constitutional oath of office taken by Washington on first assuming the duties of president, April 30, 1789, was administered by Chancellor Livingston. Washington afterward tendered to him the post of minister to the court of France, which he declined. On Dec. 14, 1800, Mr. Jefferson, being assured of his election to the presidency, wrote to Chancellor Livingston inviting him to a seat in the cabinet as secretary of the navy, but the offer was not accepted. In the following February he was once more requested to reside in France as minister plenipotentiary, and he now accepted the place. In April, 1803, he completed the purchase from that country of Louisiana, embracing all the territory now belonging to the United States west of the Mississippi river, excepting Oregon and the region since acquired from Mexico. Mr. Monroe had been despatched as special envoy to assist him in the negotiation, but it was so far advanced before the arrival of the latter that the treaty of cession was signed a few days afterward. Mr. Livingston resigned his post in 1804, and, after travelling over the continent, returned home the next year. During the remainder of his life he was actively engaged in introducing into the state of New York several improvements in agriculture, and in measures for the encouragement of a taste for the fine arts among his countrymen; and he was particularly serviceable to his friend Robert Fulton, with both counsel and material aid, in the early experiments in steam navigation. V. EDWARD, brother of the preceding, an American jurist and statesman, born in Clermont, Columbia co., N. Y., May 26, 1764, died in Rhinebeck, N. Y., May 23, 1836. He was graduated at Princeton college in 1781, studied law at Albany, and, on his admission to the bar in 1785, commenced practice in the city of New York, where at an early age he attained high rank as a jurist and advocate. In 1794 he was elected a representative in congress from the district including the city of New York, and was reelected successively to the following two

congresses, in which he was an opponent of the administrations of Washington and Adams upon the various party questions of the period. In March, 1801, he was appointed by Mr. Jefferson U. S. district attorney for the state of New York, then composing but one judicial district. He was also elected mayor of the city of New York for two years, commencing in 1801. By virtue of the latter office he was at the same time judge of an important municipal court of record. A volume of reports of his judicial opinions, delivered in that court during the year 1802, edited by himself, was published at New York in 1803. During his mayoralty, the city was visited by yellow fever, when his benevolence and intrepidity in remaining at his post nearly cost him his life. He now found his private affairs so involved, through the fault of others it is said, that he was unable to pay his debts, including a considerable balance due to the general government. He promptly resigned his offices and removed to New Orleans, in hopes to retrieve his fortunes by fresh exertions in a new field. In this he succeeded thoroughly, paying his debt to the government in full, principal and interest, and making head against great difficulties, not the least of which was a severe controversy respecting the title which he had acquired to some lands at New Orleans formed by gradual deposits from the annual inundations of the Mississippi river, and called the Batture—a controversy in which, among other opposition, he encountered that of the federal government under the personal management of Mr. Jefferson himself. This matter was the subject of a special message to congress of March 7, 1803, and of a pamphlet by the president, as well as of a pamphlet by Mr. Livingston in reply. The latter eventually triumphed in the courts, though the "law's delay" was such that the complete pecuniary fruits of the victory only came to his family long after his death. Many years later Mr. Livingston and Jefferson became heartily reconciled. The former volunteered the necessary overture at a time when his old enemy had long been a private citizen, depressed in fortune, and while his own career, already brilliant, was still fast brightening. At the battle of New Orleans, Mr. Livingston acted as aide-de-camp to Gen. Jackson. Soon after his arrival in the territory, the legislature of Louisiana commissioned him to prepare a system of judicial procedure, which was adopted in 1805, and continued in force until 1825, when it was superseded by the new and elaborate code of practice. In 1823 he was appointed, conjointly with Mr. Louis Moreau-Lislet, to revise the civil code of Louisiana, a work which was completed the next year, and substantially ratified by enactment. In the mean time, in 1821, Mr. Livingston was intrusted solely with the task of preparing a code of criminal law and procedure. The next year he made a report of his plan for this work, which was soon afterward reprinted in London and Paris. The work itself was submitted to the legislature in 1826, but was never

directly acted upon by that body, although by a joint resolution of March 21, 1822, the plan had been approved and its completion "earnestly solicited." However, the author derived from its publication great celebrity, both in America and in Europe. It was published at Philadelphia in 1823, in 1 vol. 8vo. He had completed his draft in 1824, and a copy had been made for the printer, when both copies were destroyed by fire. The next day, at the age of 60 years, he commenced the reconstruction of the work, and in two years more it was again complete. Upon this performance the best part of Mr. Livingston's fame rests. It is a comprehensive code, or series of codes, of crimes and punishments, of evidence, of procedure, of reform, of prison discipline, and of definitions, and is characterized throughout by the simplicity of its arrangement and by the wisdom and philanthropy of its provisions. It has visibly influenced the legislation of several countries, and portions of it have been enacted entire by the republic of Guatemala. All these juridical works were required to be prepared in both French and English, and called for the exercise of profound and philosophical knowledge, not only of the laws of England and the United States, but of the French, the Spanish, and the civil law. In 1823, on his retiring from the bar, Mr. Livingston was elected a representative in congress from Louisiana, in which office he continued till 1829, when he was made a U. S. senator from the same state. In 1831 he succeeded Mr. Van Buren as secretary of state of the United States, and in 1838 was appointed by President Jackson minister to France, where he resided until 1835, managing with success several affairs of more than ordinary importance and difficulty. On his return home, he retired to Rhinebeck in his native county. An eloquent eulogy upon his life and works was pronounced by M. Mignet in 1838 before the French academy of moral and political sciences, of which he had been chosen an associate a few years before. Mr. Livingston was a man of very social tastes, great gayety of manners, and perfection of temper. Amiability and goodness of heart are always the terms first employed in describing his character by those who remember him. VI. JOHN H., D.D., grandson of Gilbert Livingston, born in Poughkeepsie, N. Y., May 30, 1746, died in New Brunswick, N. J., Jan. 20, 1825. He was graduated at Yale college in 1762, and began the study of law, but resolved to devote himself to the ministry in the Reformed Dutch church. He studied theology at Utrecht in Holland, where he received the degree of D.D. in 1770; and in the autumn of the same year, having previously been ordained by the classis of Amsterdam, he returned to America, and, in compliance with a call tendered to him while abroad, at once became pastor of the Dutch church in New York city. In 1775 he was married to his third cousin, the daughter of Philip Livingston; and in 1776, having removed from New York on the occupation of that city by the

British, he accepted a call to Albany, where he remained 8 years. He then preached successively at Kingston and Poughkeepsie, and at the close of the war returned to New York. On the recommendation of the theological faculty of Utrecht and the classis of Amsterdam, he was appointed by the general synod of America in 1784 their professor of divinity, but it was not until 1795 that a regular seminary was opened under his direction at Bedford, L. I. This establishment was closed after two years for lack of support. Dr. Livingstone then resumed his labors in New York. In 1807 the professorate was united to Queen's college, New Brunswick, N. J., and Dr. Livingstone was appointed president and professor of theology. He removed to New Brunswick in 1810, and there passed the rest of his life. His published writings comprise "A Funeral Service;" "Incestuous Marriage," a dissertation on marriage with a sister-in-law (1816); and some occasional pieces. There is a memoir of his life by the Rev. Alexander Gunn (8vo., New York, 1829).

LIVINGSTONE, DAVID, a Scottish traveller and author, born at Blantyre Works, near Glasgow, in 1815. He was descended from a family which had for many generations been established in Ulva, one of the Hebrides group of islands, where his grandfather cultivated a small farm. Finding this occupation inadequate to the support of his family, he removed to Blantyre Works, and with his sons received employment in the cotton mills established there. At 10 years of age David Livingstone was placed in the cotton factory as a "piecer," and in the intervals of his daily labor pursued an extended course of self-instruction, not only studying by night, but contriving while occupied at the spinning jenny to employ much of his time in reading. Partly in this manner and partly by his attendance at an evening school he acquired a knowledge of Latin and Greek, and of various branches of natural science, including botany and geology. In his 19th year he was promoted to be a cotton spinner, and the remuneration for his labors was still steadily devoted to his education. About this time he conceived the idea of going to China as a medical missionary, with which object he attended lectures on medicine and divinity at the university of Glasgow in the winter, resuming his occupation at the mills during the summer vacation of the classes. Having been admitted a licentiate of the faculty of physicians of Glasgow, he prepared to sail for China under the auspices of the London missionary society; but being frustrated in that intention by the breaking out of war between Great Britain and China, he turned his attention to southern Africa, where the labors of the Rev. Robert Moffat were accomplishing favorable results among the natives, and, after a further course of theological instruction in England, embarked in 1840 for Cape Town, which he reached after a voyage of 3 months. From thence he proceeded by the way of Algoa bay to the interior, and passed several years at Kuruman and other places,

studying the language and customs of the Bakwains, a tribe of the Bechuanas, among whom he proposed to establish himself. In 1843 he removed to Mabotsa (lat. 25° 14' S., long. 26° 30' E.), where he founded a missionary station, and during the next 6 years labored in his calling there and at Kolobeng, a station about 50 miles further north. In June, 1849, in company with Messrs. Oswell and Murray, two English gentlemen, Dr. Livingstone started on his first exploring expedition into the interior, and on Aug. 1 reached Lake Ngami over the Bakalihari desert, which had for a long time presented insuperable obstacles to persons approaching in that direction, and along the Zouga, a large river issuing from the lake. The position of the lake had previously been pretty accurately defined on the maps, but Dr. Livingstone and his companions were the first Europeans who visited it. The party returned to Kolobeng in October, and in the succeeding year Livingstone made another journey to the lake, but was prevented by the prevalence of fever and of a species of fly very troublesome to cattle from proceeding to the northward of it. In 1851, in company with Mr. Oswell, he again started for the north, and, proceeding in a more easterly direction, reached the great river Zambesi, flowing in the centre of southern Africa. In April, 1852, he accompanied his wife (a daughter of Mr. Moffat) and his children to Cape Town, and, having witnessed their departure for England, returned to Kuruman with the intention of selecting a locality for a new station, which should be free from the annoyances of the Boers, who looked with suspicion upon his efforts to civilize the natives. While at this place he heard of a cruel attack by a party of 400 Boers upon Kolobeng, resulting in the slaughter of 60 natives, the seizure of several hundred women and children as slaves, and the plunder of his own house and many others. In Jan. 1853, he departed on his most important northern tour, and in May reached Linyanti (lat. 18° 17' 30" S., long. 28° 50' 9" E.), the principal town of the powerful Makololo tribe, at which he was enthusiastically received by the chief, Sekeletu, and the entire population. Departing thence in November, he proceeded up the Leeambye river and its affluent, the Leeba, to Lake Dilolo (lat. 11° 32' S.), and thence with considerable difficulty and peril across the Congo river to Angola, at the capital of which country, Loanda, on the western coast of Africa, he arrived May 31, 1854, and was kindly received by the Portuguese authorities stationed there. Leaving Loanda in the ensuing September, he reached Linyanti in Sept. 1855, and thence proceeded down the Leeambye and Zambesi rivers, which he found to be identical, to Quilimane on the Indian ocean, reaching that place May 20, 1856, just 4 years from the time of his last departure from Cape Town. Within that period he had traversed from ocean to ocean a portion of the continent never previously described by Europeans, and had travelled prob-

ably upward of 9,000 miles. At Quillimane he was received on board the British gun brig *Frolic*, in which he was conveyed to Mauritius, whence he returned by the Red sea and the overland route to England, arriving there Dec. 12, 1856. Owing to his long absence from England and his constant intercourse with savage races, his mother tongue had become so unfamiliar to him that at the public meetings given in his honor he found difficulty in expressing himself with fluency. In 1857 appeared his "Missionary Travels and Researches in South Africa," a work devoted more particularly to an account of his last great expedition. Having seen this through the press, he sailed in March, 1858, for Quillimane, of which place he had been appointed consul, and subsequently departed on a new exploring expedition up the river Zambesi with a party of scientific men. Occasional accounts have been received from him, by which it appears that the production of cotton, and the overthrow of the slave traffic by the opening of commercial intercourse between the African tribes of the south and European nations, two projects in which Dr. Livingstone has taken a great interest, are likely to be much advanced by the expedition.

LIVONIA, a W. province of Russia, bounded N. by Esthonia, E. by Lake Peipus and the government of Pskov, S. by Vitebsk and Courland, and W. by the gulf of Livonia or bay of Riga; area, 18,138 sq. m.; pop. in 1856, 863,085. It includes the islands of Oesel, Möen, &c., lying at the entrance of the gulf. The surface is level or gently undulating. There are a few hills, which rarely exceed 100 feet in height, although the Mesenberg, the highest, has an elevation of 1,200 feet. A considerable proportion of the land is occupied by forests and marshes. The soil on the sea coast is very sandy; in the interior, sand, clay, loam, and moorland alternate; but there are many very fertile tracts. There are 1,120 lakes, the principal of which is Lake Peipus (1,086 sq. m.), united by a narrow channel with Lake Pskov (92 sq. m.) on the S. E., and by the Great Embach with Lake Werzierwe, about 100 sq. m. in extent, in the middle of the province. The principal river is the Duna, which is the boundary toward Courland, and receives from Livonia the Ewest and the Oger; there are more than 300 smaller streams, among which are the Embach, Boulder-Aa, Salis, and Pernau. The climate is cold and raw till the end of May, but very hot in the 8 summer months. Agriculture is the chief industry. The country produces rye, barley, flax, hops, hemp, and linseed. The live stock is generally poor, or what good stock is kept is possessed by the nobles. Bears, wolves, lynxes, and foxes are numerous; and on the islands and sea coast seals are taken, and fish of various kinds are abundant. Potters' clay and limestone are obtained. Coarse woollens and cloths are made, and there are numerous distilleries. The rural population consists of Letts, Livs or Livonians proper, and Esthonians,

while Germans, Swedes, and Russians form the nobility, clergy, and burghers; there are also a few Jews. The great majority of the people are Lutherans. The principal towns are Riga, the capital, Pernau, Wenden, Dorpat, which has a university, and Arensburg in the island of Oesel. Livonia was first made known to western Europe by Bremen merchants about the middle of the 12th century. At the beginning of the 13th the order of knights sword-bearers was founded there, which in connection with the Teutonic order gradually subdued all the territories surrounding the gulf of Riga. The possession of the province was subsequently long disputed by Russians, Poles, and the knights, and finally also by Sweden, to which it was ceded by the treaty of Oliva in 1660. The treaty of Nystadt in 1721 annexed it to Russia.

LIVRE. See **FRANC**.

LIVY (**LIVIVS ANDRONICUS**). See **ANDRONICUS, LIVIVS**.

LIVY (**TITUS LIVIVS**), a Roman historian, born in Patavium (Padua) in 59 B. C., died A. D. 17. All that is known concerning his life is that he resided during the greater part of it in Rome, that he was married and had at least one son and one daughter, that he enjoyed the patronage and friendship of Augustus, that by his advice the future emperor Claudius was induced in early life to attempt historical composition, that his reputation as an author was so widely extended that a Spaniard went from Cadiz to Rome solely for the purpose of seeing him, and that he returned to his native town some time before his death. Beside his history, which is his great work, he wrote epistles, dialogues, and a treatise on philosophy, not a fragment of which remains. His history of Rome, termed by himself *Annales*, was in 142 books, and embraced the period from the foundation of the city to the death of Drusus in 9 B. C. Only 35 of these books have been preserved; but we have dry epitomes of the whole, compiled by an unknown author, probably not much later than the volumes which they abridge, which are valuable as furnishing a complete index to the whole period of Roman history, and as being the sole authority for some periods. The original work has been divided into decades, or groups of 10 books each, from the circumstance that the 1st, 21st, and 81st books mark the beginning of important epochs, and are opened with a short introduction. This division was not introduced until after the 6th century. The 1st decade is preserved entire, extending to the final subjugation of the Samnites in 294 B. C. The 2d decade, embracing the period between 294 and 219 B. C., is altogether lost. The 3d decade, comprehending the period of the second Punic war, from 219 to 201 B. C., is entire. The 15 books which form the 4th decade and the first half of the 5th, and comprehend the period from the conclusion of the 2d Punic war to the conquest of Macedonia in 167 B. C., are entire. The remaining books are altogether lost, with the exception of unimportant fragments, and of

a few chapters of the 91st book, concerning the fortunes of Sertorius. The books which are now extant were brought to light at various dates from the revival of learning to the year 1615, the earliest editions having included only 29 books. Many of the fragments have been since discovered, two of the most interesting of them having been first published by Niebuhr (Berlin, 1820). Great exertions were made by Leo X. and by other potentates as late as Louis XIV. to recover the lost decades. Perfect copies were affirmed to exist at Iona in the Hebrides, in Ohio, in the monastery of Mt. Athos, and in the seraglio of the Turkish sultan; there is reason to believe that such a prize was destroyed at the siege of Magdeburg, and there is little doubt that a manuscript containing at least the whole of the 5th decade was once in existence at Lansanne. The pursuit, however, always proved a vain one, and has long since been abandoned. The singular beauty of Livy's style, his easy, graceful, and energetic narrative, his skill in giving full relief to the leading features without neglecting minor incidents, and in maintaining a constant interest while relating a long series of dull events, have hardly been questioned. His characterizations and his descriptions are alike animated. His speeches, while they have been admired as models of eloquence, have been criticized as too polished and rhetorical to be suited either to the characters to which they are ascribed or to the audiences to which they are represented as addressed. It does not appear to have been his aim to write a critical history, but rather to give his countrymen a clear and pleasing narrative, and to exalt the fame of the Roman people. He moulded the rude records and fables of the older chronicles into a symmetrical and somewhat poetical form. He never displayed a diligent and painstaking care in consulting authorities and weighing conflicting testimonies. He never ascended to the original sources, tested the records by the monuments of remote antiquity, investigated the antiquities and traditions of the various Italian tribes, or inquired how far the rites and customs of his own time might explain the institutions of the past. He makes mistakes too from lack of a thorough acquaintance with the military art, jurisprudence, political economy, and even geography. These deficiencies, which result in many contradictions and inconsistencies, are not due to want of good faith, but to his indifference to historical thoroughness, and his desire for literary rather than critical elaboration. With the exception of a general tendency to eulogize the heroism of his countrymen and the military glory of Rome, he seems to have written with liberality and impartiality. Quintilian twice mentions a certain "Patavinity" in his style, but scholars have been unable to discover to what he alludes. The best editions are by Drakenborch (7 vols., Leyden, 1788-'46) and Alchefsiki (Berlin, 1841 *et seq.*). There are English translations by Philemon Holland (London, 1600-

'59), Baker (1797), one published by John Hayes (1744-'5), and a literal one forming 4 vols. in Bohn's "Classical Library" (1850).

LIZARD, the common name of several families of saurian reptiles, but properly restricted to the family *Lacertini*, or the autosaurian group of Duméril and Bibron. Many iguanas, geckos, monitors, and skinks have been called lizards; the green anolis and the blue-tailed skink are familiar examples in this country. The lizard may be defined as a scaly reptile, with elongated body, 4 feet armed with 4 or 5 unequal and free toes, long conical tail clothed with scales disposed in parallel rings; head protected by horny plates, flattened and narrow in front; the tympanum membranous and distinct, and the eyes generally with 8 movable lids; the mouth wide, surrounded by large scales above and below; teeth of unequal size and shape, inserted on the internal border of a common groove in the projecting portion of the maxillary bones, and frequently also on the palate; tongue slender, free, fleshy, more or less extensible and forked at the point; the scales without prominent crests, those of the abdomen large; the neck without dewlap, but often with one or two transverse folds covered with tubercles or broad scales which form a kind of collar separated from those of the abdomen by smaller ones; the false ribs do not make a complete circle. The family of lizards may be divided into 2 sub-families, according to the structure and mode of insertion of the teeth; the 1st, according to Duméril and Bibron, is the pleodont, and the other the oelodont; in the pleodonts the teeth are solid, and firmly fixed by their edges and external surface to the jaws in a hollow of the interior border; in the oelodonts the teeth have an interior canal, and are slightly attached to the jaws. The pleodonts are further subdivided into the flat-tailed and conical-tailed groups; and the oelodonts into the smooth-fingered and the serrated-fingered groups, distinguished also by their habits. The 1st group pass most of their lives in the water or inundated places; the 2d avoid wet situations; the 3d frequent woods and gardens, and the last dry and desert localities. Nineteen genera are described, established on the form of the tongue and teeth, the situation of the nostrils, the presence or absence of femoral pores, the form and distribution of the abdominal plates, and the characters of the tympanum and collar; for details the reader is referred to the work above cited. This family is one of the best known among reptiles, as its members are for the most part easily obtained in Europe and America; they vary in length from a few inches to 3 or 4 feet; the colors are often pleasing, but the tints vary much according to sex, age, and season. Lizards are very rapid in their movements for short distances, both on land and in the water; the loss of the tail is frequent from various accidents, but it is very soon replaced; from their scaly covering the sense of touch must be dull; so also are smell and hearing; the moist and

movable tongue indicates greater development of the sense of taste; vision is generally very good. Various shades of green, yellow, gray, black, white, blue, and red are found in the family; the epidermis is ordinarily renewed several times a year, being detached in fragments or plates, and at each moult the colors appear brighter, especially in the males. Lizards drink by lapping; their favorite food consists of insects, terrestrial mollusks, worms, eggs, and for the larger species small birds, reptiles, and mammals; the muscles of the jaws are powerful, and their bite is severe and long continued; most genera are oviparous, but one genus brings forth the young alive; the flesh of some of the larger species is considered a delicacy in South America. All the pleodonts belong to the new world, and all the ocolodonts to the continents of Europe, Asia, and Africa; the 6-lined ameiva only is found in North America.—The flat-tailed pleodonts or crocodilurians, embracing the genera *crocodilurus* (Spix), *thorictes* (Wagler), and *neusticurus* (Dum. and Bibr.), with a single species each, are among the largest of the family; they may be recognized by the crocodilian form of the tail, surmounted by 2 serrated crests, a powerful swimming organ; though the feet are not palmated, these reptiles pass most of their lives in the water, in the rivers, lakes, and swamps of tropical South America; some attain a length of 2½ feet, of which the tail is about two thirds. Of the conical-tailed pleodonts the best known genus is *ameiva* (Ouv.), more numerous in species, not partial to moist places, living on worms, insects, mollusks, and even on vegetable food. The common 8-lined ameiva (*A. vulgaris*, Licht.) attains a length of 1½ feet, and is a native of Brazil and Guiana. The 6-lined ameiva (*A. sex-lineata*, Holbr.), common in the southern states, is the only representative of the true lizard in this country; the usual length is about 10 inches, of which the tail is two thirds; the color is dark brown above, marked with 6 yellow longitudinal lines, and silvery white below. It is very active, frequenting dry and sandy places; it is very timid, and feeds on insects, which it generally procures toward the close of the day. The great American safeguard or teguixin, the largest of the ameiva lizards, grows to a length of more than 4 feet; it is voracious, and preys upon mice, frogs, and animals of similar size, and its white flesh is esteemed by the Brazilians; it is a swift runner, and when pursued will bite and strike severely with its tail; it is the *tepus monitor* (Merr.), and frequents the woods and dry places of tropical South America.—The ocolodonts, or hollow-toothed lizards of the old world, are all terrestrial in their habits; the smooth-fingered group are excellent climbers on trees and walls, of mild disposition, and generally looked upon as friends of man. This includes the typical genus *lacerta* (Ouv.), or the lizards properly so called; they have distinct eyelids, femoral pores on the inside of the thighs, and a collar of scales larger than the

rest under the throat; the form is generally slender and graceful, and the motions very quick. The European sand lizard (*L. stirpium*, Daud.; *L. agilis*, Linn.) has the back reddish brown, sometimes with blackish spots, the sides green with brown spots, and the lower parts chiefly white; it is about 8 inches long, and of rather stout form; it is found in Europe (except in the northern parts), near the Caspian sea, and in Asia, in level and hilly districts, in which it digs a hole at the foot of a bush or tree; it passes the winter in a dormant state, and feeds in the warm season on insects and larvae; the female lays about a dozen cylindrical eggs. The viviparous lizard (*L. vivipara*, Jacquin; genus *scotoca*, Wagler) is about 7½ inches long, of which the tail measures two thirds; the back is olive or reddish brown, with a black band on each side bordered with white above and below, and a black dorsal streak along the spine; the under parts are orange yellow with black spots. The tail does not diminish in thickness until about its middle. It is found most frequently in mountainous regions of Europe, but occasionally in dark and damp woods; it is timid, very active, and feeds principally on dipterous insects. Toward the month of June the female lays 5 to 7 eggs, from which the young come forth in a few minutes perfectly developed, and sometimes, it is said, the eggs are entirely hatched within the oviducts. The green lizard (*L. viridis*, Daud.) attains a length of about 18 inches, of which the tail is a foot; the color above is either uniformly green, or brown spotted with green, or the latter spotted with yellow, and the under parts yellow; there is considerable variation, and some specimens are marked with white and black streaks. It is generally distributed over Europe (except in the northern parts), northern Africa, and western Asia. The handsomest of the European species is the eyed lizard (*L. ocellata*, Daud.), about 16 inches long, of a green color, with spots, eyes, and reticulations of black, and rounded blue spots on the sides; it inhabits central and southern Europe and northern Africa. The wall lizard (*L. muralis*, Merr.) is only about 8½ inches long; the colors vary much, but the most common tint is an olive gray above, with brownish, whitish, and greenish tints, and a whitish yellow below; it is found over all Europe and western Asia. The other group of ocolodonts have the fingers with lateral serrations or inferior ridges, by means of which they can run rapidly over the arid sand in which they generally live. The genus *ophiops* (Menest.) is remarkable for the absence of lids, giving to the head a snake-like appearance; it is found in south-western Asia. *Psammodromus* (Fitz.) is European; *calosaurus* (Dum. and Bibr.) is Asiatic; *acanthodactylus* (Fitz.) is African and European; *scapteira* (Fitz.) is also African; *eremias* (Fitz.) has 18 species, found in Africa and Asia, the best known being the variable lizard (*E. variabilis*, Fitz.), 6½ inches long, from Asia, grayish with black spots having a white centre.

LLAMA (*uchenia*, Illiger), a ruminant animal representing the camel family in the western hemisphere. The dentition is as follows: incisors $\frac{1}{2}$, the upper placed at the side of the intermaxillary bone close to the canines, which they much resemble; of the 6 lower incisors, the 4 median are very broad, curved, and gouge-shaped, the two external near to and resembling the canines; canines $\frac{1}{2}$; molars $\frac{1}{2}$. There is no hump on the back; the soles are divided into 2 toes, each with a strong horny nail or hoof with a thick pad beneath; the ears long, pointed, and movable; the upper lip is swelled and cleft, the head camel-like, the orbits prominent, and the nose small; the form is less heavy and the appearance less stupid than in the camel; the head is carried nearly perpendicular; the size and strength are much inferior to those of the camel; there is a conformation resembling the camel's hump in the shape of a thick bed of fat under the skin; as they kneel down like the camels, they have callosities on the knees of the fore legs; the stomach has a system of superficial cells, which in some degree may be considered equivalent to the water reservoirs in the camel. The structure of the feet is not adapted for travelling on sandy wastes, but for securing a firm hold among the mountains where they dwell; their native region is the slopes of the Andes, especially in Peru, and, though in a tropical latitude, often within the limits of perpetual snow. In the wild state they are vigilant and shy, living in flocks upon the mountains, and descending into the plains in search of food. When irritated they eject the contents of their mouth, which are very disagreeable, upon their assailant; they have the habit of dropping their excrement in particular spots, and from this propensity the natives are able to collect considerable quantities, which they use as fuel. There appear to be 8 species of the genus, viz.: the wild guanaco (*A. huanaco*, Tschudi), of which the llama is probably the domesticated variety; the alpaca or paco (*A. alpaca*, Tschudi), described in its alphabetical order; and the vicuña (*A. vicugna*, Tschudi). These are easily tamed, and are susceptible of considerable attachment to their keepers. The guanaco is found in the Andes from northern Peru to the neighborhood of the straits of Magellan, in the former inhabiting the mountains in small companies, but in Patagonia frequenting the plains in considerable herds. About 8 feet high at the shoulder, the head is carried at the height of about 5 feet; the color is reddish brown, and the hair tolerably long; they are hunted for the skin and flesh. Living at an elevation of 8,000 to 12,000 feet above the sea, they feed chiefly upon tough grassy reeds, mosses, lichens, and such shrubs as will grow at low temperatures; they do not require drink as long as succulent herbage can be obtained; their chisel-shaped and strong lower incisors, interlocking with the upper teeth and meeting the firm pad of the upper jaw, enable them to feed upon vegetable substances too

hard for ordinary cattle; and their long neck, cleft lip, pointed nose, and extensile tongue permit the collection of food in the interstices of rocks, and from the tops of tall shrubs. Sensitive to heat, they increase in situations where an arctic temperature prevails, even though under a tropical sun, far above the abodes of man. The young may be hunted with dogs and the lasso, but the adults must be shot; the flesh of the young is tender, but that of the old only fit for drying and salting. The domesticated llama (the *A. lama* of such as consider it a distinct species) takes the place of the camel and the horse among the Indians of Peru and Chili; it is of about the size of the guanaco, but of somewhat more compact form, and the hair is varied with black, white, gray, and other colors, as in other domesticated animals. From the elevation of the abdomen in the pelvic region the posterior portion of the body seems weak; 90 or 100 lbs. is as much as they can easily carry, but the ability to travel over rugged declivities made them valuable beasts of burden to the natives; their place is now to a great extent supplied by mules; their rate of travel is only 10 or 15 miles a day. They are valued principally for their long woolly hair, from which the Indians make articles of clothing; the skin makes good leather, the dung is used for fuel, and the flesh and milk as articles of food. They require very little care; at night they are put into an enclosure, where they sleep without protection, though the temperature falls even in summer below the freezing point; allowed to wander among the mountains during the day in search of food, they return like cattle at night to their enclosures. The alpaca, noticed under that title, considerably smaller than the llama, is domesticated by the Peruvians, though not used as a beast of burden; it is valued principally for its long and silky hair, which is made into the fine cloths familiar to all. The vicuña is the smallest species, about 2½ feet high at the shoulder; the color is reddish yellow on the back, and whitish on the belly; it is a wild animal, of great value for its very fine hair. The llama and alpaca have a period of gestation of 11 or 12 months, and only one is usually produced at a birth; they are weaned when 6 months old, and begin to bear at the age of 2 years; the former are not put at work till the end of the 8d year. From the fact that when the three animals above mentioned can be made to breed together the offspring is sterile, it is inferred that they constitute different species; these hybrids are much handsomer, and have longer and heavier fleeces than the original stocks.—There have been several attempts to introduce the llama into the United States and Europe, but as yet with little success; though thriving for a time on the usual food of cattle and sheep, they begin to fail unless they can browse on the inferior kinds of grass, with a supply of succulent roots instead of rich food and grains; in Peru, maize or millet in the soft milky stage

is frequently given to them; in Ohili they eat a coarse clover, and here would thrive on the same, as well as pea vines, bean stalks, buckwheat straw, and such other coarse food as our cattle would reject; they invariably suffer from disease of the skin when confined in low places, and can only be restored by pure mountain air and frequent bathing. A sketch of the attempts to introduce the llama into the United States is given in the agricultural portion of the patent office report for the year 1857; none of these having been successful, probably from the unsuitableness of the climate and elevation in the Atlantic and gulf states, it is there advised to place them on the vast and high plains at the east of the Rocky mountains, between long. 20° and 80° W., extending from Texas to the arctic regions; here the nature of the soil, the climate, and the herbage (particularly the buffalo grass) seem specially suited for the llama; here, with the herds of wild cattle, horses, buffaloes, antelopes, deer, and other ruminants, if unmolested for a few years, they would probably increase immensely, affording a great source of wealth in their skins, flesh, and wool, beside being useful as beasts of burden in places inaccessible even to mules. In the autumn of 1857, 38 llamas were imported into New York from Peru, and, having been kept during the winter at the "Dyckman farm" in the city, near King's Bridge, were offered at auction in March, 1858. The flock was 73 when it started from Peru; exposed to the perils of the isthmus of Panama in the hottest season, to the railroad transit, and to a crowded passage in a small vessel, with insufficient and improper food, it was no wonder that about half of them died before reaching New York. They wintered as well as sheep of the same condition, though fed on dry forage; the flock were all broken to the halter and the pack, and were docile, tractable, intelligent, in color resembling brown and black sheep; they did not bring \$100 each (the price demanded) at this sale, though some were subsequently sold to go to Australia at a little more than this; what became of the flock is not definitely known. Though possibly the llama might be used for carrying supplies in some of the mining regions of the country, and afford a not very palatable food to the inhabitants of arid districts, it would be kept principally for its fleece. The latter, 4 to 6 inches long, fine and soft with a few longer coarse hairs, resembles that of a black sheep; an average fleece will weigh 10 lbs., and its value is greater than that of wool; the excellence and durability of alpaca cloth are well known. It would be a subject worth the attention of agricultural societies, to ascertain if somewhere in this vast country the llama and alpaca cannot be introduced to advantage among our fleece-bearing domesticated animals.

LLORENTE, DON JUAN ANTONIO, a Spanish writer, born in Rincon del Solo, Aragon, March 30, 1756, died in Madrid, Feb. 5, 1823. He came of a noble though not wealthy family,

studied at Tarragona and Madrid, and received in 1776 the degree of LL.B. with an ecclesiastical benefice. In 1779 he was ordained priest, in 1780 he was made doctor of canon law at Valencia, and in 1783 he became vicar-general of the bishop of Calahorra. Already at this time he seems to have been unsettled in his faith; at least we know from his own account that in 1784 he had arrived at the conclusion "that there is no authority outside of us which has the right to subjugate our reason." Notwithstanding these views, he accepted in 1785 a situation as commissary, and in 1789 as secretary-general of the inquisition. By the liberal inquisitor-general Manuel Abad de Sierra he was charged with drawing up a plan of a total reformation of the inquisition, but this attempt failed. A second attempt, made by Llorente in union with the bishop of Calahorra and the minister of justice, Jovellanos, was no more successful, and ended in the exile of Jovellanos and the arrest of Llorente. He was, however, recalled to Madrid in 1806 by the Prince of the Peace, who commissioned him to write, in favor of a greater centralization, a work against the old liberties of the Basque provinces (*Noticias historicas sobre las tres provincias Bascongadas*, 3 vols., Madrid, 1806). Several lucrative offices were the reward of this work. After the invasion in 1808 Llorente became one of the most devoted partisans of the French. King Joseph made him a state councillor, and, after the suppression of the inquisition, placed all the papers of that tribunal at his disposal, and charged him with writing its history. For two years Llorente was occupied, aided by several assistants, in copying the most important documents. At the same time he was charged with the execution of the decree which abolished all convents, and also accepted the supreme administration of the so called national property. He was accused of having embezzled 11,000,000 reals, and lost his offices for a time; but as the charge could not be proved, he was restored. Being exiled as an adherent of the French by Ferdinand VII. in 1814, he went to Paris, where, after a short journey to England, he took up his permanent abode. Here he finished his most celebrated work, the "History of the Spanish Inquisition." Not being perfectly master of the French language, he published it in Spanish, but it was at the same time translated into French under his superintendence by A. Pellier (*Histoire critique de l'inquisition d'Espagne*, 4 vols., Paris, 1817-'18). The work was very soon translated into German, Italian, English, and Dutch, and made a profound sensation. That it is very deficient as a work of art is admitted by all; and also that the author evinces but little knowledge of general history. The accuracy of his citations from the documents of the inquisition is still disputed. Modern Catholic writers, especially Hefele in his "Life of Ximenes," have contested it, while Protestant historians are generally of opinion that no sufficient reason has yet been adduced to doubt it.

Immediately after the publication of the work he was suspended from the exercise of all ecclesiastical functions. He then endeavored to support himself by giving instruction at a literary institution in Paris, but this also was soon forbidden by the Paris university. In 1822 he published his *Portraits politiques des papes*, a work which was regarded as even more hostile to the Roman Catholic church than his history of the inquisition. Being ordered by the government to leave France within three days, he returned to Madrid, where he found a cordial reception, but died soon afterward. Beside the works already mentioned, he wrote: *Mémoires pour servir à l'histoire de la révolution d'Espagne, par Nellerto*, an anagram of his name (3 vols., Paris, 1815-'19); *Discours sur une constitution religieuse* (2 vols., Paris, 1819); *Œuvres complètes de Barth. de Las Casas* (2 vols., Paris, 1822); and *Observations critiques sur le roman de Gil Blas* (Paris, 1822), in which he sought to prove that Le Sage took his celebrated work from a Spanish manuscript. He published an autobiography, *Noticia biográfica* (Paris, 1818), which is reprinted in full in Mahul's *Annuaire nécrologique* (5th year).

LLOYD, HENRY, an English soldier and author, born in Wales in 1729, died at Huy in the Netherlands, June 19, 1783. He went abroad at the age of 16, and was present at the battle of Fontenoy. He afterward entered the Austrian service, rose to the command of a body of cavalry, and subsequently resigned his commission in disgust, and entered the service of Prussia. He made two campaigns in the capacity of aide-de-camp to Prince Ferdinand of Brunswick, and on the commencement of hostilities between Russia and Turkey in 1768 he entered the Russian service as major-general. He distinguished himself at the siege of Silistria and elsewhere, and subsequently participated with credit in the war with Sweden. After more than 30 years' absence he returned to England, and having made a survey of the coast prepared a memoir on the "Invasion and Defence of Great Britain," which was published in 1790. He wrote also "The History of the late War in Germany, 1758-'59" (2 vols. 4to., London, 1766-'90), and "A Treatise on the Composition of different Armies, Ancient and Modern," both of which were translated into French and German. It has been said, but upon doubtful authority, that his continuation of the history of the 7 years' war and history of the wars in Flanders were bought up and suppressed by order of the British government.

LLOYD'S, the name of subscription rooms on the first floor of the London exchange, where merchants, shippers, and underwriters attend to obtain shipping intelligence, and where the business of marine insurance is carried on. One large room with small rooms attached to it is occupied by the underwriters, the object of whose association is to limit the interest of every individual underwriter to a moderate amount, say £50, £100, or £150, rarely exceed-

ing £200; so that in case of casualties the loss, instead of falling upon one, is divided among hundreds. The underwriters of Lloyd's have agents in all parts of the world to report on casualties and to attend to their interests. Their affairs are managed by a committee of 9 members; the chairman is elected annually. Another large room, called the merchants' room, is provided with newspapers from all parts of the world, and open to subscribers, who for the use of this room alone have to pay 2 guineas, and for the whole establishment 4 guineas annually. The third room is called the captains' room, to which a bar is attached, where captains and merchants meet in a more social manner, and where ship auctions are held.—This use of the name Lloyd or Lloyd's arose from the circumstance that the head-quarters of the London underwriters were originally in Lloyd's coffee house; it has now become a generic term for similar associations in many parts of Europe. An Austrian Lloyd's (*Lloyd Austriaco*) was established in Trieste in 1833 by Baron Bruck, who committed suicide in April, 1860, on being dismissed from the office of Austrian minister of finance. It is not, like its London namesake, an association of underwriters, but for general commercial and industrial purposes. In 1836 it established a journal, in 1837 a line of steamers, and in 1849 an institution devoted to printing and art.

LOACH, a soft-rayed cyprinoid fish, of the genus *cobitis* (Linn.). The common loach of Great Britain (*C. barbatula*, Linn.) is 3 or 4 inches long, with a small head, elongated body very little narrowed at the tail, and covered with minute and slimy scales; the mouth is small, without teeth, the upper lip having 4 barbules in front and one at each corner; the ventral fins far back, placed under the single small dorsal; gill openings small, and branchiostegous rays three. It is common in shallow clear streams, where it delights to lurk under stones, and is very restless and active when disturbed. Like other species with barbules, it is a ground fish, feeding on worms and aquatic insects; a common name for it is mud creeper; it is very prolific, spawning in March or April, and its flesh is considered a great delicacy. The air bladder is contained in a bony cavity attached to the anterior vertebra, and is supposed by Weber to be connected with the organ of hearing; there is also said by Yarrell to be a deficiency in the upper wall of the skull between the parietal bones. The spined loach (*C. tania*, Linn.; genus *botia*, Gray) is rather smaller and more slender, without barbules, but with a forked and movable spine behind each nostril on the suborbital bone; this is a rarer fish in Europe, but several allied species are found in the Ganges. The color in both these species is yellowish white above, clouded and spotted with brown, but unspotted beneath. The lake loach of Europe (*C. fossilis*, Linn.) is about the same size. All the species of loach are peculiarly restless during stormy weather, especially

when accompanied by thunder and considerable electrical changes in the air; they have been regarded as a kind of living barometers, which, from their being ground fish with a low degree of respiration and consequent great muscular irritability, may be explained on philosophical principles; the peculiarity of the air bladder may enable them to perceive thunder either by the sense of hearing or feeling. According to some writers the lake loach, which is very tenacious of life, comes to the surface in order to swallow air, from which it extracts the oxygen, giving out carbonic acid by the vent, performing a kind of supplementary intestinal respiration. There is a very curious fish called the 4-eyed loach or peeper, ranked by Linnæus in the genus *cobitis*, but now placed in the genus *anabrops* (Artedi). It belongs to the allied family of cyprinodonts, having maxillary teeth and 5 branchiostegous rays. The most striking peculiarity is the protuberant eyes, the cornea in which is divided transversely into 2 nearly equal parts by a horizontal opaque band; the iris also appears to be double, forming a double pupil, but in reality the sides of the former are only drawn together under the transverse corneal band, as may be seen in young fishes; the lens is pear-shaped, and the internal structure of the eye offers nothing peculiar; the fish swims with this corneal band at the surface of the water, so that it appears to have 4 eyes, the upper 2 of which serve for atmospheric, and the lower 2 for aquatic vision. The best known species (*A. Gronovii*, Valenc.; *A. tetraphthalmus*, Bloch), found in the rivers of Surinam and Guiana, and about 10 inches long, has the oviduct dilated into a sac, in which the eggs are retained until they are hatched, and the young escape alive; their method of viviparous reproduction has been described in the article *FISHES* (vol. vii. pp. 584-5).

LOADSTONE. See *IRON*, vol. ix. p. 592.

LOAN, in law, the delivery of an article to a borrower, who is to use it without paying therefor. The rights and obligations of the lender and of the borrower have been much considered from Bracton's day to this, but more by text writers than in adjudged cases. These are rather few in number, not because loans are uncommon, for they certainly are very common; but perhaps because the legal rights growing out of the relation of lender and borrower have usually been settled by the parties, and therefore have not come into litigation. I. *Rights of the Borrower.* He has a right to receive and hold the thing borrowed, but only as the property of the lender. For many purposes his possession is, in the eye of the law, the possession of the owner, the borrower being for this purpose the agent of the owner. Still the possession of the borrower would confer upon him some of the rights of an owner as against every one but the owner. Thus he might maintain, in his own name, an action against a wrongdoer. The borrower has a right to use the article borrowed, but only to use it. He can no

more lend it than he can give or sell it; and if he should do either of these, the owner may take it as his own property from the hands of the person to whom the borrower has delivered it; and if a borrower lent to another the thing he borrowed, without the leave of the owner, and the thing while in the hands of the second borrower was destroyed or injured by inevitable accident, the first borrower would be liable to the owner, while the second borrower would not be liable to the first borrower. Neither can the borrower pawn the thing borrowed, nor, it is believed, can he hold it as a security for a debt due to him from the lender; nor can he use it except for purposes for which he borrowed it, or for those which naturally belong to it, or, as it is expressed in the code of Louisiana, for its "natural destination." It is important to determine what degree of care a borrower must take of the article borrowed; or, in other words, for what loss of or injury to it he is responsible. A loan is a bailment, but it is one for the sole and exclusive benefit of the borrower; therefore it is one which binds the borrower to the utmost care of the thing, and to a responsibility for even slight negligence. How this care may be precisely defined, it would not be easy to say. The best definition, or that most generally accepted, is, such care as any person not fatuous would take of the thing if it were his own property under like circumstances. Hence it has been said that a borrower must take as good care of what he borrows as if it were his own. But this is by no means a sufficient rule. If a man borrows a valuable book, and puts it among his own in his library, and by his carelessness the whole library is destroyed, he certainly is not discharged from the duty of paying for the book by the fact that his own were destroyed. Suppose, however, that without fault on his own part the library takes fire, and by great efforts he saves a part of his books and does not save the borrowed book because he could do so only by abandoning one of his own. Here we have no doubt that he would be responsible; and we should say the same thing even if he could only save the borrowed book by the sacrifice of others much more valuable, although this is much questioned. But he is not bound to take the greatest possible care, and therefore is not liable if the borrowed property were lost by robbery, or violence, or theft, or any cause not reasonably to be anticipated, provided no imprudence or negligence of his own enters as a cause into the loss. If the thing be lost, and the borrower pays for it to the satisfaction of the lender, and the thing is afterward found, we should say that the lender may elect to keep the money (always supposing no fraud) or to return it and demand the thing lent. But it has been thought that this election lay with the borrower. As the borrower takes the thing to use, and the lender consents to this, the borrower is not liable for such injury as naturally results from the use of it; or, to use a common phrase,

from the natural wear and tear of use. But, on the other hand, he is bound to pay all the expenses or charges which naturally result from or accompany the use. So he is bound to pay, in the first place, all extraordinary charges which become unexpectedly necessary to the preservation of the thing. But of these expenses he may demand repayment from the lender, and he has a lien on the thing borrowed as his security for them. Thus, if A borrows a horse of B, A must see that he is properly fed, shod, and groomed, and all this at his own expense. So if the horse becomes suddenly ill, A must provide all proper medical advice and medicines, and for these also he must pay; but he may demand them of B, whether the horse lives or dies; and if he lives, A may keep the horse until B repays him these expenses, in the same way he would if it were pledged to him for the sum. II. *Rights of the Lender.* If a borrower keeps the thing borrowed after it is his duty to return it, his relation to the owner is changed at once; and it is therefore necessary to determine when he is bound to return it. Upon the important right of redemanding the thing lent at pleasure, the Roman civil law held a different doctrine from our own common law. By that law, if one lent a thing for an indefinite period, he might reclaim it when he would, or perhaps within any reasonable time. But if he lent it for a time certain, this was a valid contract, and the borrower had a right to retain it against the will of the lender during that time. The common law however does not regard it as a valid contract, for the reason that no consideration passes; and therefore the lender, however specific may have been the terms of the loan, may rescind and cancel them at his pleasure and demand a return of the thing. Now, we have seen that if the borrower keeps the thing after he was bound to return it, his relation to the lender changes totally; and this change takes place as soon as a definite period for which the thing was lent expires, whether the thing be demanded or not; and as soon as it is demanded, whether the period for which it is borrowed have expired or not. Hence, as soon as it should be returned and is not, the borrower becomes at once liable for any loss or injury, although wholly without his fault; as if, for example, he had kept it when he should not, and then was robbed of it by overwhelming force. In fact, if he keeps it when he should return it, he holds it entirely without right, and is just as liable as if he had originally taken it without right. But there must be a reasonable construction of this rule. Thus, if a lender meets a borrower in the street and demands an article lent, which the borrower very properly has at his house, and proposes to return as soon as he can with reasonable diligence, and before it is returned, but without any improper delay on the part of the borrower, the article is destroyed without the fault of the borrower, he would not be responsible. If, however, by his sudden demand, the lender puts the borrower to much

inconvenience and even loss, and compels him to change all his arrangements, as, for example, to delay a journey to his own great detriment, there is no rule of law which would allow him to keep the thing for that reason, however a jury might view the case if he did keep it for a short time and was sued by the lender. So too, if he gave up the thing at once, and suffered the loss, there is no rule of law which would permit him to maintain an action for damages against the lender. A lender has no right to compensation for want of the care or skill which he had no right to expect. Thus, it has been said in illustration of this rule, that if one lends a fiery horse to one who ought not to be supposed capable of using it with safety, the lender has no claim for compensation for damages caused by the want of the extraordinary skill or strength required. By the same reason, if a lender knows of defects or tendencies to mischief in the thing lent which are not obvious, and does not disclose them, he has no claim for damages thence resulting. And if he lends the thing for an illegal act, he is no longer a lender in the eye of the law, but an accomplice in the wrong done.—In all that we have said we have considered as a loan only that which is so by legal definition. But the common use of the word is very different. Thus one is said to lend his money for so much per cent., or to lend an article for such a compensation. But the moment any compensation of any kind is paid by the borrower, it ceases totally from being a loan, and becomes a contract of hiring, which is an altogether different thing. The Roman civil law, in its exquisite classification, recognized another form of loan, under the name of *mutuum*, for which we have no word in English, either in law or in usage. A loan, in law, is a delivery for use by the borrower, as already defined; but a *mutuum* may be defined as a loan for consumption, and not for use. Thus one lends so much bread, or wood, or wine, which the borrower is to use at his pleasure, and in the use consume, and repay by an equal quantity of a similar article. But no compensation whatever is to be made, or this also would become, instead of a *mutuum*, a hiring. Such contracts cannot be uncommon in practice, and would undoubtedly be governed by the same rules as the contract of loan, varied only as the different nature of this contract required. It is obvious also that a contract might be in part a loan, and in part a *mutuum*. Hence if A lent B a cask of wine for a certain occasion, B to use what he chose, and to repay that by a similar quantity, and to return the rest, this would be a *mutuum* as to all that was used, and a loan as to all the remainder.

LOANDO, ST. PAUL DE. See ST. PAUL DE LOANDO.

LOANGO, a maritime district of S. Africa, fronting on the Atlantic ocean, and extending from the equator to the river Congo or Zaire and inland for 200 m.; area, 80,000 sq. m. The coast is high, and in the interior there are con-

siderable mountains. None of the rivers have long courses, and only the Congo on the S. border comes from the great central table-land. The climate is hot and moist, and vegetation extremely luxuriant. Rain rarely falls, and the deficiency is compensated by heavy dews. The greater part of the surface is covered with forests, in which the tiger, hyæna, and other animals prowl, and which produce valuable timber and dye woods. The rivers and lakes abound with fish. Iron and copper are the only minerals known to exist in this region, and are most abundant near Mayomba. Ivory and gums are also articles of commerce. Manioc, maize, pulse, potatoes, and yams are cultivated for food, and the sugar cane grows well. The Chinese hog is used as a domestic animal. Loango, the capital, Mayomba or Majumba, Cabenda, and Embomma are the chief places. Loango is situated on a fine bay of the same name in lat. 4° 40' S., and Embomma is a commercial town on the Congo, 60 m. above its mouth. The people are idolaters, and are governed by an absolute monarch.

LOBAU, GEORGES MOUTON, comte de, a French soldier, born in Phalsbourg in 1770, died in Paris in 1838. He enlisted as a volunteer in 1792, and fought in the 2d campaign of Bonaparte in Italy. He was aide-de-camp to Joubert in 1798, and was attached to the emperor in the same capacity in 1805. He shared in all the subsequent campaigns; obtained the rank of general of division in 1807 at the battle of Friedland; stormed in 1808 the town of Merida in Spain, and contributed to the fall of Burgos; distinguished himself at Eckmühl and Essling in 1809, and by his indomitable firmness preserved a corps of the French army that had been left on the island of Lobau. For this exploit he received the title of count of the empire. He accompanied Napoleon in his Russian campaign, and after the disastrous retreat assisted in the formation of a new army. After the battle of Leipsic and the capitulation of Gouvion St. Cyr, he was made a prisoner and sent to Hungary, where he remained until the first restoration of the Bourbons. He joined Napoleon on his return from Elba, was appointed commander of the 1st military division, headed the 6th corps of the French army at Waterloo, and fell into the hands of the English. Being liberated, he was not permitted to return to France till 1818, and for the 10 following years he lived in retirement. In 1828 he was elected by his department to the chamber of deputies, and took an active part in the revolution of 1830, being appointed a member of the municipal commission. He sided with the friends of the duke of Orleans, and was rewarded by a peerage, the grand cross of the legion of honor, the chief command of the national guard (Dec. 1830), and finally in 1831 received the rank of marshal of France. He suppressed by his energetic measures the republican insurrections in 1832 and 1834.

LOBEIRA, or LOVEIRA, VASCO DE, a Portu-

guese writer, born in Oporto about 1270, died in 1325, according to Bouterwek, while Ticknor places him a century later, giving 1408 as the date of his death, which is said to have taken place at Elvas. In 1386, according to the latter, he was knighted by John I., on the field of battle at Aljubarotta. He is however almost solely known as author of the celebrated romance "Amadis de Gaul." Southey, who translated it, has apparently proved that it was original with Lobeira, and not a translation from the French. The Portuguese original existed until 1753, and it probably perished in the earthquake and fire which destroyed the Arveiro palace at Lisbon.

LOBEL, MATTHEW, a Flemish physician and botanist, born in Lille in 1538, died near London in 1616. Having emigrated to England, he superintended for some years a garden of medicinal plants at Hackney, and ultimately became physician and botanist to James I. The most important of his works are, *Stirpium Nova Adversaria* (London, 1570), and *Plantarum Historia* (Antwerp, 1576), a systematic work, illustrated by figures.

LOBELIA, a genus in botany, so named by Linnaeus in honor of Matthew Lobel, constituting the type of the natural order *Lobeliaceae*. The lobelias are herbaceous plants or shrubs, with a milky juice, alternate leaves without stipules, axillary or terminal flowers having a superior 5-lobed calyx, a monopetalous, irregular, 5-cleft corolla, 5 stamens whose anthers cohere, and a many-seeded capsular seed vessel, which splits open at its apex. From the close approximation of the anthers to each other, the mode of the flowers reminds us of *compositae*, though they approximate likewise to the *campanulaceae*. Unlike the latter, however, they prefer the borders of the tropics, abounding in the West Indies, in Brazil, in the Himalaya, at the Cape of Good Hope, in the Sandwich islands, Obili, and New Holland. The species are prized as ornamental plants, from the gracefulness of their growth and the splendor of their blossoms. For the most part they have tall erect forms, and flowers borne in spikes; but some are particularly slender and trailing, and are fitted for pendent ornaments. Of these, the well known *Lobelia gracilis*, or the *L. erinoides* and its varieties, with small pretty foliage and rich blue flowers, may be cited. One known as *L. erinus*, var. *grandiflora*, is highly commended in Paxton's "Botanical Magazine" for May, 1848. Some species are dwarf but upright-stalked aquatics, of which we have in the United States *L. Dortmanna* (Linn.), with a naked scape bearing a few pale blue flowers; its foliage consists of linear, terete, hollow leaves, which are all clustered around the base of the flower stalk (scape), and grow under water; hence the plant bears the name of the water lobelia. The bog lobelia (*L. paludosa*, Nutt.) is similar, but its leaves are flattened and scattered, linear, spatulate. This species is to be found in Delaware and southward. Growing in dry soils, in our pastures and by the roadsides, may be found in summer the spiked

lobelia (*L. spicata*, De Lamarck), with wand-like, simple stems two or more feet in height, bearing spatulate leaves, which are obtuse at their apices, and flowers of a beautiful blue, borne in a long terminal spike on short peduncles. There are other species of similar mode of growth and habits, but they occur westward and southward.—The term lobelia in common usage is however applied to a different species (*L. inflata*, Linn.), called also Indian tobacco, which has an erect, hirsute, paniculately branched stem, subsessile, lanceolate, dentate, pilose leaves, leafy racemes bearing small axillary pale blue flowers, succeeded by smoothish, swollen, thin, and membranaceous capsules, which are filled with minute seeds. This plant possesses acrid, emetic, cathartic, and narcotic properties, and is largely employed by certain medical practitioners. It is sometimes called eyebright (Thurber), and by some persons is highly esteemed for its reputed virtues, but overdoses prove decidedly poisonous. It is said to produce excessive ptialism in horses, when they have inadvertently eaten it. Few other plants have such decided friends and enemies. The great lobelia (*L. syphilitica*, Linn.) is a much more showy plant, growing 2 to 3 feet high in rich soils, with an erect, hirsute stem, oval, lanceolate, crenulate leaves, leafy racemes, hirsute calyx, and large blue (rarely white) corolla, flowering from July to September. Its roots are perennial, which, beside its beauty, fits it well for the garden, in which it will flourish if undisturbed for many years. Its properties are diuretic, and if of any value as an antisyphilitic, as once supposed, it is due to this fact alone.—The most gorgeous flowered species is the cardinal flower (*L. cardinalis*, Linn.), found plentifully upon the borders of ponds and of muddy streams in New England, and even ranging, according to Elliott, as far as South Carolina. Its stem is erect, its leaves broad-lanceolate, serrated; its spikes of flowers are terminal. The flower consists of a long-tubed corolla ending in 5 spreading segments, the 3 lowest ones widest. No blossom can be more splendid, its hue defying the artist's imitative skill. Its roots are strongly fibrous and grow loosely in the mud, from which they may be easily removed at any season of the year for transplanting. Once established in the garden, an abundance of new plants can be obtained by the freedom with which the seeds vegetate spontaneously sown, growing best in very wet or at least in shaded ground. This species can be cultivated in large pots, or tubs filled with peat and kept very wet, and this treatment is often very propitious to their growth and beauty. Instances have been known of rose-colored flowers occurring on wild plants of this species, which tint is very beautiful; a natural variety with pure white flowers, treated with a careful pot culture, has produced at one time more than 800 fine blossoms.—The fulgid lobelia (*L. fulgens*) and the splendid lobelia (*L. splendens*), both from Mexico, are very magnifi-

cent bloomers, with scarlet-corolled flowers rivaling the hues of the most brilliant geraniums. These, under the influences of a rich cultivation, have produced stems measuring 5 feet or more in height; yet with all these merits they cannot be said to equal the cardinal flower. A fine variety, once known as the showy lobelia (*L. speciosa*) of the flower catalogues, has rich purplish-tinted corols. According to Hovey, the Mexican species are tender plants, and require the protection of a frame or of a greenhouse during the winter, which may be the reason why they are not seen more plentifully. Something like the following method may be pursued in their treatment, if very superior specimens are wanted. The young plants or the offsets from the old roots may be placed in suitable pots, which, well drained, should be filled with equal parts of loam and bog earth or leaf mould, to which should be added river sand in the proportion of one fourth. As the roots outgrow the pots, the plants should be shifted from time to time, being finally placed in pots of 10 inches diameter (6th size), in which they may be expected to flower. Pans should now be placed under each pot, and these constantly supplied with soft water; a cool and rather shady situation is also found advantageous to the duration of their blossoms. A variety known as the Victoria, treated somewhat in this mode, produced flowers of extraordinary size and splendor. When raised from seeds, a great difference will be found in the seedlings; but when they come into flower in the second season, the finest sorts only should be saved for future culture.—As a natural order, the *Lobeliaceae* contain species eminently dangerous, or at the least suspicious on account of the acridity of their milky juice. The tenacity of the milky fluid of the *siphocampylus* gives to one of its species the trivial name of *S. caoutchouc*. A dangerous poison is obtained from the *tupa Feuillai* of Ohili. *Isotoma axillaris* bears a pretty blue flower, and is cultivated; but a co-species, *I. longiflora*, is so venomous that it proves fatal to horses that eat it, swelling them till they burst; it is also a violent cathartic, the effects of which no remedy can assuage, and which end in death; the leaves are active vesicants. A European species (*L. urens*) derives its name from its blistering quality (Lindley). *L. cardinalis*, according to Dr. Burton, is used by the Indians for its anthelmintic powers.

LOBO, JERONIMO, a Portuguese missionary, born in Lisbon in 1593, died there in 1678. He entered as a novice the order of Jesuits when only 16 years old, and in 1621 was made a professor in the Jesuit college at Coimbra. In 1622 he was commanded to proceed as a missionary to India. Arriving at Goa in the same year, he remained there till 1624, when he sailed for the African coast, with the intention of penetrating into Abyssinia. His first attempt to reach that country proved unsuccessful, but in 1625 he disembarked at a port of the Red

sea, and entering Abyssinia, took up his abode there as superintendent of Catholic missions. During the lifetime of the sovereign then reigning he enjoyed protection, but the next Abyssinian monarch persecuted the Catholics, who were compelled to leave the country in 1634. The exiles fell into the hands of the Turks at Massowah, and Lobo had to return to India in order to procure funds to effect their ransom. Having accomplished this object, he embarked for Portugal to submit their case to the Portuguese government, and endeavor to rouse it to undertake a crusade against Abyssinia. After undergoing shipwreck and captivity he arrived at Lisbon; but finding that he could not induce either Portugal or the other Catholic powers to assent to his views, he reëmbarked for India in 1640, and was subsequently rector and provincial of the Jesuits at Goa. In 1656 he sailed once more for Lisbon, and there passed the rest of his life chiefly in literary pursuits. He published an account of Abyssinia, and of the Catholic missions there, under the title of "A History of Ethiopia" (Lisbon, 1659). An English translation by Dr. Johnson from the French version, was published in London in 1735.

LOBOS (or SEAL) ISLANDS, three islands in the Pacific near the coast of Peru, and belonging to that country. The principal island, Lobos de Tierra, is in lat. $6^{\circ}25'S.$ and long. $80^{\circ}52'W.$, and is 5 m. long and 2 m. broad. The smaller islands are about 80 m. S. S. E. of Lobos de Tierra, and are separated from each other by a channel a few hundred feet wide. They are called together Lobos de Fuera, and are each from $1\frac{1}{2}$ m. to 2 m. long by less than 1 m. in breadth. There is good anchorage near the larger island, and two safe and capacious bays at the smaller islands. The sheltered parts of these islands are covered with guano, the product not only of birds, but of the seals which frequent them, and from which they are named. The quantity of the deposit on the whole group is estimated at 740,000 tons. In 1851 a controversy respecting the title to these islands sprung up between the government of Peru and that of the United States, the latter claiming them in consequence of their alleged discovery by an American vessel in the early part of this century. On investigation, however, the claim of Peru to them was established and admitted by the American and British governments.

LOBSTER, a well known marine crustacean, of the order *Decapoda* and genus *Homarus* (Milne-Edwards). The common lobster of the United States (*H. Americanus*, Milne-Edwards) has the general form of the crawfish, heretofore described, but may be distinguished by its larger size, marine habitat, narrow and spiny rostrum, and greatly developed anterior claws. The rostrum is sharp, turned up at the point, furnished with spines at the base, on the sides, and beneath, and with a slight furrow on the dorsal surface. The shell, which is olive or blackish green with darker spots and blotches, as is well known, becomes red by boiling, from

the action of the heat upon its pigmentary matter; acids and alcohol produce a similar effect, but all in a manner not perfectly understood, except by the further oxidation of the coloring matter. This horny, many-jointed, external skeleton, being non-extensible, is changed periodically as the animal grows; it splits in two on the head and body, the new one forming underneath in 2 equal halves, the tail being shed without splitting; in this condition of the shell, which is soft as paper, the animal is defenceless, hiding in crevices in the rocks to escape destruction by voracious fish and its own species. The eyes are placed on the end of 2 peduncles, movably inserted on the anterior border of the head; the external antennæ are very long and many-jointed, the seat of a delicate sense of touch, and at their base is a hollow process supposed to be the seat of the sense of hearing; there is also a pair of smaller median antennæ, in whose basal joint is generally placed the sense of smell. The first 3 segments of the thorax are changed into oral and tactile organs, forming foot jaws around the mouth; beneath a soft upper lip is a pair of strong mandibles moving laterally, the internal border hard, and having a tactile *palpus*; behind these mandibles are 2 pairs of lower jaws, weaker, and without tactile appendages; both mandibles and maxillæ are mere processes from the basal joint of thoracic legs; between these organs is a soft under lip, which is a fold of the skin. There is no distinction between head and thorax, the anterior part of the body being called cephalothorax, which contains 14 segments; the first 6 contain the eyes, antennæ, and jaws; the next 3 bear the maxillipeds or jaw feet; the 10th segment bears the great pincers, used as prehensile organs, ending in a two-fingered organ, the metatarsus being thickened and immovable and the tarsus capable of being applied to it like a finger; the 4 succeeding segments bear the ambulatory feet, consisting of 6 joints each, the anterior 2 pairs ending in weak pincers, and the posterior pairs with a single point, all more or less hairy. The abdomen consists of 7 segments, with 6 pairs of natatory appendages beneath, some concerned in the function of reproduction, and the terminal one divided into 5 hair-fringed plates, the external ones jointed. According to Siebold, the thorax is entirely abortive, the 5 pairs of legs being appendages of the abdominal segments. The principal organ of locomotion is the tail, which, by a sudden bending underneath, sends the animal backward with great velocity. The carapace is free at the side, and has a transverse suture on the back, the last segment being immovable; the abdomen is about as long as or longer than the thorax. The intestine is straight, and the anus at the end of the tail; the stomach has a firm cartilaginous support in the pyloric portion, consisting of 8 solid movable pieces, called the "lady" from a fancied resemblance to a female figure seated upon a sofa; it is composed of chitine, studded with bristles, and its parts

doubtless serve the purpose of teeth in an internal mastication; this cartilaginous framework is shed with the external skeleton. There is a greenish glandular organ surrounding the intestine, with a mixture of fat cells; this, popularly called "tom alley," is the liver. There is a distinct heart, with well developed arterial vessels, but the blood does not flow through capillaries into veins, being effused into the lacunæ which lie between the organs and appendages of the body; still the blood moves in a determinate direction, assisted by venous sinuses. Respiration is aquatic, effected by branchiæ, 19 in number on each side, covered by the carapace, and enclosed in a special cavity at the base of the thoracic limbs, communicating externally by two fissures; the water enters at the base of the feet near the edge of the cephalothorax, and passes out on the sides of the respiratory organs, which consist of clusters of minute cylinders set together in a brush-like manner; the foot jaws have also branchiæ. The sexes are distinct. The eggs or berries of the lobster are reddish or blackish, spherical, glued together by a viscid matter, and attached in clusters to the hairy feet of the posterior abdominal segments; they are thus borne about, protected under the body of the female, until the embryos are fully developed. The young differ but little from the adults, and take shelter under the mother's tail; they are often seen surrounded by the young 6 inches long, which retire to safe retreats when apprised of danger by the mother. One of the most curious peculiarities of the lobster is the ease and frequency with which the large claws are separated, either by accident or from injury received in their constant attacks upon each other; these and the other limbs are very soon replaced, and it is very common to catch these animals with one claw absent or smaller than its fellow; they are said frequently to lose them after a heavy clap of thunder, at which they are always much disturbed. As the teeth of one large claw are numerous and sharp, and those of the other few and blunt tubercles, the uses are probably different, the one for crushing and the other for retaining food or crippling an enemy; they are very quarrelsome, whether free or in captivity, and are dangerous to handle for those unacquainted with their habits and mode of attack. They vary in length, as caught for the market, from 1 to 2 feet, though specimens are seen considerably larger than this, and in weight from 2 to 15 lbs.; they are common in the markets, especially in spring and summer, and are considered a great delicacy, though the meat is rather indigestible. There is only one species in our waters, found from the coast of New York northward; the best are taken on the rocky shores of New England north of Cape Cod; our species is distinct from *H. gammarus* (Milne-Edwards) of Europe, and grows to a larger size. Their food is entirely animal. They are caught in baskets or traps, with a concave netting at each end having a hole in the centre, and bait-

ed with dead fish or any garbage; they can enter easily, but their expanded claws prevent egress, on the principle of the common wire rat trap. These traps, sunk to the bottom in deep water, and their places marked by wooden floats, are raised every day or two, and their contents removed; to prevent their injuring each other, a wooden plug is driven into the joint of the movable thumb, which keeps the claw shut, and they are then transferred to a floating large ear, in which they will live many days, until they are wanted for market. In some places lobsters are largely used as bait for cod and other deep water fishes. It would be impossible to estimate the number consumed annually in the fresh state, but it must be counted by hundreds of thousands; as the price varies from 8 to 6 cents a pound, at the lowest, it will be seen that the lobster fishery is a source of a very great revenue to New England, which is their principal habitat and market. The shortest way of killing them is breaking off the rostrum. They are considered as good only for bait while undergoing the change of the shell; no part is poisonous, though the cartilaginous stomach or "lady" is so tough that no one would think of eating it; like other crustaceans and shell fish, they sometimes cause eruptions of the skin in hot weather and in susceptible constitutions; the unimpregnated eggs, of a fine red color, commonly called "coral," are considered a delicacy. The lobster is one of the highest of the macrouran or long-tailed decapod crustaceans, but is lower in its class than the brachyuran or short-tailed crabs of the same order.—The genus *palinurus* (Fabr.), or spiny lobster, of the European seas, grows to a weight of 15 or 20 lbs.; the shell is hard and spiny, the antennæ much longer than the body, and the claws very small; it is much esteemed as food, and was prized by the ancient Romans, who called it *locusta*.

LOOK, a metallic apparatus attached to doors, drawers, trunks, &c., by which they may be secured so as not to be opened without the instrument called a key or a knowledge of the peculiar device. Locks were employed by the ancient Egyptians for fastening doors, and they were furnished with iron keys, a specimen of which, described by Sir Gardner Wilkinson, had a shank 5 inches long looped at one end for a handle, and bent around at the other, where it was furnished with 8 teeth or prongs for fitting corresponding cavities, in which pins or tumblers held fast the bolt, until they were moved by this instrument. Other keys of various forms have been met with in the ruins of ancient Egypt, and it is remarkable that at that early period the principle of the best locks of modern times should have been adopted, which is that of tumblers for holding the bolt fast until they are first moved by the key. Rude locks with this contrivance have been used in different countries of Europe from time immemorial, and yet it was only taken up by regular lock makers within the last 100 years. The use of locks and keys is alluded to in some

of the oldest writings. In the *Odyssey* (xxi.) Penelope is spoken of as opening a wardrobe with a very crooked brass key having an ivory handle; and in Judges, iii. 23-25, they are also referred to as means of securing doors. In *Herculaneum* locks were found of complicated structure, and metallic keys as old as the occupation of Britain by the Romans have been discovered in that island. The Chinese have possessed considerable skill in lock making, and some of their wooden locks are constructed on the principle of the famous Bramah lock invented in England in 1784. These, with their sliders or tumblers of different lengths adapted to the exact length of the wards of the key, indicated a degree of ingenuity in this department not reached by the most civilized nations till near the close of the last century. Up to that time the locks in general use were of the most simple construction, like the common door locks of the present day. They consist of a box or case (essential to all locks) in which is a sliding bolt, that may be thrust partially out and turned back again by the key. When the lock is attached to a door, the bolt is the part that enters the fixed casement and prevents the door from being opened. The keyhole is the only aperture for reaching the bolt. The key is a lever acting upon a pivot, around which it is turned by the long handle or shank; and the extreme edge of the portion that enters the lock furthest from the pivot is the part that engages in the bolt and moves it. The bolt itself is notched, so that this part of the key as it turns may take hold of it. In order to add to the complexity of the lock, so that only a key of peculiar form can turn in it, bits of metal are secured to the inner surface of the plate, which obstruct the movement of the key unless this is provided with open spaces corresponding to these obstructions. Hence the so called wards, which give the different patterns to common keys. They may be removed from the key without injury, leaving only a strip of metal to connect the extreme edge with the shank. It would then be what is called a skeleton or master key, and might fit many locks of similar size. The insecurity of such locks is readily perceived. Even a crooked wire may often be successfully applied to reach the bolt and move it back; or a false key may be made by introducing a blank key (that is, one not cut into wards), its side coated with burglars' wax, and causing this to press against the obstructions, so as to leave the mark where the openings may afterward be made by filing. Though as little ingenuity appears to have been practised in the picking as in the construction of these locks, still their insecurity was evident, and others were invented in the latter part of the last century of more complicated plan, the key acting upon several bolts. But with the greater ingenuity in construction that of picking locks increased in the same ratio; and in the history of locks, from the invention of Bramah to the present time, it is a singular fact that each new one, regarded by its

inventor and others as impregnable, was sooner or later picked by the exercise of ingenuity as great as or greater than that employed in its invention. To construct a lock that shall set at defiance all attempts to open it without the possession of the true key would seem to be no very difficult task; but when the requisites of locks are considered, their construction is soon perceived to involve mechanical ingenuity of the highest order. The problem, it must be remembered, is not to make a single lock, with some device peculiar to itself, with secret contrivances to be understood by one or more particularly instructed in its mysteries; but it is to devise a plan upon which for economy's sake an unlimited number of locks can be made, each differing from every other one only in some slight modification, which is still so distinctive that the key which is made to open one is useless for another. The keys also, while resembling each other in size and general form, must possess each one some distinctive and essential feature which cannot be imitated without having the original key to copy, nor be accidentally hit upon. The lock also must be so constructed, that its inner portion cannot be reached through the keyhole by any other instruments designed either for moving the bolt, or for obtaining an impress of the forms and position of its parts, or for the introduction of gunpowder for the purpose of blowing it open. Locks with keyholes concealed under knobs, mouldings, and architectural devices, and reached by some secret spring, the position of which is known only to the owner, may in many cases prove a satisfactory and effectual security; but they may also prove a serious inconvenience, and do not answer the requirements of perfect locks for general purposes. The so called letter or dial locks are of similar character in this respect. They require no key, and the movement of the bolt is effected only when the indices upon a dial are so arranged as to point to certain letters, usually those of some word, which the owner must always bear in mind. The lock may be arranged on a new word as desired, and this the owner must be careful to remember. These locks have not proved a safe protection against picking. One invented by Mr. Brown in Liverpool, and the most celebrated of this class, was picked while on the safe of Messrs. Brown, Shipley, and co., by Mr. Hobbs; and another of Mr. Lillie's, equally celebrated in this country, was picked in 1856 by Mr. Linus Yale, jr., of Philadelphia.—The great feature in the best modern locks is the tumbler, which is introduced in a great variety of forms. Barron in 1774 improved them greatly by causing them to hold the bolt unless they were lifted to the exact height required to free it and no more. This he effected by inserting a little pin in the tumbler, but as afterward improved by others in the bolt, and making a notched slit in the tumbler for it to play in. When the key lifted the tumbler too high or not high enough, the pin, designated the stump, caught in the notches;

but when at the right height, the bolt could slide along, carrying the stump through the open slit or "gateing" past the notches. One or a number of tumblers may be used, each having its own gateing, to which a distinct notch in the extreme edge of the key is exactly adapted. The more tumblers the greater is the complexity of the lock and the improbability of constructing an instrument to pick it. For a long time it was generally regarded as perfectly safe, though the method of picking it, called the tentative process, since made known by American lock makers, was described in the 7th edition of the "Encyclopædia Britannica," published 80 years ago, but entirely overlooked. The most improved form of this lock, manufactured by Mr. Chubb of London, was repeatedly picked by Mr. Hobbs of Boston by this very method. It consists in carefully moving with some instrument, which serves as a key, one tumbler at a time, and judging by the feeling when the stump is opposite the gateing. This can be ascertained by an expert operator very quickly, and retaining each tumbler in its proper place as this is found, the bolt at last is free to move. Bramah's lock, invented in 1784 (see **BRAMAH'S LOCK**), is a very ingenious modification of the tumbler system; and in his pamphlet, in which he exposes the insecurity of ordinary locks, he states that it is "not within the range of art to produce a key or other instrument by which a lock on this principle can be opened." It was however by the method just referred to that Mr. Hobbs in 1851 proved the insecurity of this famous lock, and obtained the prize of 200 guineas that had long been a standing offer in the shop window of the Messrs. Bramah to any one who could make an instrument that would pick or open it. The lock to which this notice was attached was a very complicated one of 18 sliders, corresponding to the tumblers of Barron's lock. Like most other locks, it is defective in this respect, that its parts which come in contact with the key are affected by pressure applied to the bolt; and all such locks, according to Mr. Hobbs, can be picked. This is the weak point in the dial or letter locks. But the Bramah locks when in actual use are not exposed to this method of operating, and they are still properly regarded as among the most secure of locks, and the small size of their key is a great recommendation to them. But it should be remembered that, the patent having long since expired, there are many cheap imitations sold as genuine, which can be opened as easily by a goose quill or any small metallic tube as by their own key. The next invention in lock making worthy of note was that called the "detector," a contrivance of Mr. Jeremiah Chubb made in 1818. It is a lever so arranged that any tumbler lifted too high by a false key, or in picking, turns it so as to catch in the bolt and effectually prevent its moving until by a backward motion of the key the detector and tumbler are restored to their places. An operator aware of this contrivance being in the lock

can make use of it, as was shown by Mr. Hobbs, to indicate just the necessary height to which each tumbler must be raised. It hence proves to be worse than useless.—In 1881 Mr. Rutherford of Scotland invented a lock, the bolt of which being barred could be freed by clock-work connected with it, and set for any particular time. This ingenious contrivance was obviously open to serious objections. In 1833 a method of affording additional security to locks was patented by Mr. Parsons in England, which consisted in arranging the tumblers so that they could be taken out and transposed, and then returned to the lock, the key being at the same time changed in a corresponding manner. The principle, it is believed, was understood long before that time; and it is the same that was subsequently fully developed in the celebrated locks constructed in the United States and known as the "permutation" locks. The changes of which some of these locks are capable are almost infinite in number, and being readily made merely by adjusting rings attached to the key and then turning the bolt, which cannot afterward be turned back except by the same combination of rings upon the key, the contrivance would seem to be perfect, particularly as the key is conveniently small. By means of these changes the lock may even possess the advantage of a new one of different construction as often as the owner pleases. But unfortunately it has not been found proof against the very ingenious methods of picking which have kept pace with the improvements in locks. Dr. Andrews of Perth Amboy first produced locks on this principle that attained any celebrity. This was in the year 1841; and for some years after his lock was in high repute and much employed by bankers and others. Upon the barrel of the key he placed steel rings as blanks in the place of some of the "bits" of the key, and however arranged the key would lock the bolt, but unlock it only with the same arrangement. Mr. Robert Newell of New York invented in the same year a more complicated lock than that of Dr. Andrews upon this permutating principle, which he afterward developed to the highest degree of perfection. Making of lock picking a science for careful study, he showed the insecurity of Dr. Andrews's lock by picking it on the tentative or pressure principle, and then performed the same feat on his own lock, which he frankly acknowledged. His improvement was the introduction of the primary and secondary system of tumblers, thus doubling the capacity of the permutation key. To this he added the intermediate or detached tumbler principle as a perfect safeguard, and again offered his lock as unpickable. Its imperfection, however, was soon after shown by Mr. William Hall of Boston, who opened it by the so called "smoke" process. A smoky flame introduced into the lock leaves a fine deposit of lampblack on the edges or "bellies" of the tumblers, which is removed by the key when next introduced from those parts rubbed by its bits. After this the opera-

tor by means of a small mirror reflects a strong light into the lock, and brings the key marks to view. Means are thus afforded for obtaining the exact dimensions for a false key. The next step was to conceal the tumblers. This Mr. H. O. Jones of Newark accomplished by a concentric ring and curtain, and Mr. Pyes still more effectually by an eccentric ring and curtain. Thus completed, this was the famous paratopic (concealed from view) lock, with one of which Mr. A. O. Hobbs defied the best English operators, and established the superiority of American locks in the great exhibition of 1851. This lock came into general use in the United States, but, though introduced into the bank of England and some other banks in Great Britain, has never become popular there. The perfect security it afforded remained unquestioned until 1855, when even this lock was picked by Mr. Linus Yale, jr., of Philadelphia, making use of what he called his impression process. Mr. Yale affirms that by this feat he has proved that all these locks may be picked, if the key be of the "winged" form, and if in its use it rubs an impression on the edges of the tumblers. The father of this inventor, Mr. Linus Yale, senior, also a lockmaker of great ingenuity, obtained a patent in 1848 for a lock called the "pin" lock, and after this for another known as the duplex lock, for which two keys were required; one being introduced, it was necessary to unscrew and remove its handle and close the keyhole entirely with a hardened plate before the other keyhole could open. This was regarded as absolutely secure until it was picked by his son. The latter, convinced that any plan for excluding picking tools is useless so long as the shape of the key prevents the keyhole from being entirely closed, and that the method just given of doing this is ineffectual, unless the lock be so constructed that the tumblers cannot be moved into their true position when the keyhole is open, contrived in 1851 a lock of most ingenious construction, which he called the magic lock. In this the bits of the key are attached upon its shaft and appear as of the same piece; but when the key is introduced into the lock they are taken up by a pin, which enters through them into the centre of the key shaft, and this being turned in the usual manner, a train of gear wheels is set in motion, which first separates the bits of the key from the shaft, and then carries them away from the keyhole into the interior of the lock. They there arrange the tumblers to their proper positions out of sight and beyond the reach of any picking tools; for the same motion which detaches and carries away the bits at the same time closes up the keyhole with a solid hardened blocking. When the bolt is shot the keyhole reopens, the bits come back and join the handle again, and all are taken out as they went in. The bits if desirable may be taken off and carried in the pocket, leaving the shaft or handle with the lock. In this lock neither the smoke nor impression process can be applied for picking, for the key bits

leave no trace of their action, and the movements are too concealed to be reached by any observation. This lock as well as Newell's is highly praised both for its security and the perfection of its workmanship by Mr. E. B. Denison, the famous clockmaker of London. He remarks "that the casting of both these American locks (which have all their heavy parts of cast iron) is vastly superior to any iron casting we have ever seen made in England; and on the whole the United States are evidently far ahead of us in the manufacture of both good and cheap locks." He observes the same peculiar feature of the application of machinery by American mechanics to the production of duplicates of the parts of locks, which he had praised in their construction of clocks; and noticing the extent to which Mr. Hobbs had carried the stamping and machine finishing system, he adds: "It is hardly exaggerating to say that he has abolished the use of the file, and left nothing to hand labor except the mere fitting of the pieces together and putting the tumblers in the right position to have the gate cut according to the key." As a proof that the United States still retains the lead in this art, the fact may be mentioned that the permutation lock is here in general use, while in England it is hardly known. Mr. Denison himself invented in 1852 a lock pronounced by Mr. Hobbs the only one of English invention secure against any known method of picking. In this the works are large and strong, while the keyhole is so narrow that no instrument strong enough to injure the lock can be introduced, nor a reflector to observe the bellies of the tumblers. The bolt is shot by a handle independently of the key, by which alone it can be withdrawn; but the construction of the lock does not allow the key to remain in it; and except when the key is in the hole, it is quite closed by a steel curtain within, which springs across it.—A common device against the employment of strong tools for forcing locks apart, and of gunpowder to blow them up, is a strong slider of cast steel, made, as in the lock just named, to close the keyhole. Sometimes a piece of the back plate of the lock is cut out, and screwed on again with a few small screws. When force is applied, this part gives way, saving the rest.

LOCK, MATTHEW, an English composer, born in Exeter about 1635, died in 1677. At the restoration he was appointed to prepare the music for the public entry of Charles II. He is considered as the father of the English opera. He wrote the music for "Macbeth," the "Tempest," and Shadwell's "Psyche."

LOCKE, JOHN, an English philosopher, born in Wrington, Somersetshire, Aug. 29, 1632, died at Oates, a country seat in Essex, Oct. 28, 1704. The moderate inheritance of his family was considerably reduced during the civil wars, in which his father was a parliamentary captain. Under the brief political ascendancy of the Puritans he imbibed the religious principle and spirit of liberty which actuated that body of men. His

education began at Westminster school, from which he was elected in 1651 to Christchurch college, Oxford, where he was graduated bachelor of arts in 1655 and master in 1658, continuing to reside in that city till 1664. In after life he regretted that he had spent so much of his time in the university, chiefly from his contempt of the scholastic philosophy and methods which were there upheld; yet he applied himself diligently to the classics, read in private the works of Bacon and Descartes, and enjoyed the friendship of persons whose society and conversation first suggested the idea of his greatest work. His companions were chosen rather from among the lively and agreeable than the studious and learned, and his early correspondence often displays wit and irony. The precise and scientific method of Descartes seems to have given the first impulse to his speculations, but Bacon exerted a more permanent and congenial influence, and he may be called the metaphysician of the Baconian philosophy. After receiving his degrees he devoted himself principally to medicine, which occupied much of his attention through life, and his eminent proficiency in which is attested by Dr. Sydenham, the greatest authority of his time. But though he was disciplined by the study of the complicated and fleeting phenomena of disease for the sagacious observation of the phenomena of the mind, yet his works, unlike those of Hartley, Darwin, or Cabanis, who were also both physicians and philosophers, contain no passages savoring of the chemical laboratory or the anatomical lecture room. In 1664 he accepted the post of secretary in a diplomatic mission to the court of Brandenburg, and, returning to Oxford within a year, was in doubt whether to begin the practice of medicine as a profession, to continue in diplomatic employments, offers of which both in Spain and Germany were made to him, or to enter the church, a considerable preferment in which was promised through the duke of Ormond, lord lieutenant of Ireland. He was engaged in studies in experimental philosophy, when in 1666 he became acquainted with Lord Ashley, afterward earl of Shaftesbury, who was then suffering from an abscess in the chest. Locke divined the nature of the disorder, which no one else had been able to discover; the life of the nobleman was believed to have been saved by a surgical operation which the philosopher advised; and the result was a close and permanent friendship between them. Locke accompanied him to London, and in his house enjoyed the society of the duke of Buckingham, the earl of Northumberland, Lord Halifax, and others of the most distinguished characters of the time. Shaftesbury united engaging manners with distinguished ability, and was an admirable talker; and Locke, whose esteem for conversational capacity led him to assign it a first place in the formation of a man's mind, was probably attached in this instance very much by this quality. While residing with him he superintended the education of his son, and subsequently of his grandson the

third earl of Shaftesbury, the elegant philosophical writer of Queen Anne's reign. In 1668 he accompanied the earl and countess of Northumberland on a tour in France, and after his return (1672) was employed by Shaftesbury to draw up the fundamental laws of Carolina, which province had just been granted to him and 7 others. The scheme of government which was prepared, aristocratic and conformed to monarchy, yet tolerant of all religions, indicates the cautious and practical tendencies of his mind, since, though a lover of freedom, he proposed to establish it in a new country only in so far as it had been realized in England. In 1670 he made the first sketch of his "Essay on the Human Understanding," which was finished in 1687 and published in 1690. In a discussion with five or six friends at his chambers in Oxford, he suggested that the dispute and perplexity could only be solved by a preliminary examination of our own abilities, and of what subjects our understandings are or are not fitted to deal with. He set down several thoughts on the subject previous to their next meeting, and the work thus begun was often resumed and often neglected during his various avocations, and was ultimately completed in retirement and leisure. While Shaftesbury was lord chancellor, Locke held the appointment of secretary for the presentation of benefices, and afterward of secretary to the board of trade. In 1675 he went to France for the benefit of his health, residing in Montpellier, where he became acquainted with Mr. Herbert (afterward earl of Pembroke), to whom his "Essay" is dedicated, and in Paris, where his conversation was welcomed by the most eminent literary and scientific men. He was recalled to England when Shaftesbury regained power for a brief season in 1679, and followed that nobleman when, charged with high treason, he took refuge in Holland in 1682. He continued to reside there after the death of Shaftesbury, having incurred the hostility of the court by his connection with him. At Amsterdam he kept aloof from the British exiles who were plotting the rebellion of Monmouth, anguring their ill success, and joined with Limborch, Le Clerc, and others, in the formation of a philosophical society for the weekly discussion of important questions. Spies were set about him to suggest irritating topics, and to report his words to his ruin, but they were foiled by his steady silence concerning the politics of the day. The court therefore resolved to punish him in the only point where he was vulnerable, and ejected him from his studentship in Christchurch college. Still he refused to take part in the schemes of invasion, and concealed himself at Utrecht, where he was employed in writing his letter "On Toleration." In the *Bibliothèques* of Le Clerc he published in French in 1686 a "New Method of a Common-place Book," in 1687 an abridgment of his "Essay on the Human Understanding," and in 1688 his letter "On Toleration," which was published in England in the same year, and in Latin

at Gouda in 1689. Its liberal views were attacked by an Oxford theologian, and were defended by Locke in two additional letters. Adopting the theory of a compact, he maintained that the state relates only to civil interests, has nothing to do with matters of the world to come, and should therefore tolerate all modes of worship not immoral in their nature or involving doctrines inimical to good government. Conscious of no crime, he refused to accept a pardon which William Penn promised to obtain for him from James II., but returned to England after the revolution of 1688 in the same fleet which brought the princess of Orange, and obtained through Lord Mordaunt the office of commissioner of appeals. In 1690 appeared his "Essay on the Human Understanding," the first work which attracted attention in England to metaphysical speculations, except on the part of merely studious men, and one of the greatest contributions in modern times to the philosophy of the human mind. The celebrity of the author as a friend of civil and religious liberty, the attacks upon it, and the attempts made at Oxford to prevent the students from reading it, were among the secondary causes of its success. Six editions appeared within 14 years, and through translations into Latin and French the fame of the author was made European. He published in 1690 two "Treatises on Civil Government," written to support the principles of the revolution by establishing the title of King William upon the consent of the people as the only title of lawful government; in 1693 his "Thoughts concerning Education," in which his object is to fashion a gentleman rather than a scholar, and therefore he lays less stress on learning than on virtue, breeding, and practical wisdom; and in 1695 the "Reasonableness of Christianity," the object of which was to determine what points of belief were common to all the Christian sects, in order to facilitate a plan of the king for the reconciliation and union of them all. He published a vindication of this work against the charge of Socinianism, and conducted a controversy with Stillingfleet, who in his work on the Trinity denounced some of the principles of the "Essay" as opposed to fundamental Christian doctrines. In 1700 he resigned his commissionership in consequence of his failing health, and, declining a pension offered him by the king in a personal interview, retired to the mansion of his friend Sir Francis Masham at Oates, in Essex, where he devoted the remainder of his life to the study of the Scriptures. Among the fruits of his later labors were a "Discourse on the Miracles," "Paraphrases, with Notes, of the Epistles of St. Paul," and an "Examination of Father Malebranche's Opinion of Seeing All Things in God," which were published posthumously. His excellent treatise on the "Conduct of the Understanding," which may be regarded as the ethical application of his "Essay," being a scheme of the education which an adult person should give himself, also appeared after his death. He received during his

last years, while suffering under an incurable asthma, the affectionate attentions of Lady Masham, a daughter of Ralph Cudworth, and died ultimately in his chair, from the natural decay of a constitution originally weak, while she was reading the Psalms to him.—The course and circumstances of Locke's life were in every respect favorable to the production of such a work as the "Essay on the Human Understanding." Early imbued with a zeal for liberty and with the principles of a severe morality, his whole life was a warfare against the enemies of freedom in speculation, freedom in worship, and freedom from every unnecessary political restraint. Acquainted by his studies both with scholastic subtleties and the physical sciences, he was in mature age admitted to the society of wits and politicians, and became a man of business and of the world. The "Essay" was the product of meditation continued through many years, was composed at intervals, and is in a studied colloquial and rather racy style, which, however attractive to the reader, is too figurative, ambiguous, various, and even contradictory, for the purposes of philosophy. The essential character and tendency of his system has therefore always been a matter of dispute between metaphysicians of different schools, and different passages suggest very opposite conclusions. His object was to inquire into the origin, certainty, and extent of human knowledge, and his method was purely psychological, by the patient and tentative observation of the phenomena of consciousness. In the 1st book he confutes the Cartesian doctrine of innate principles or axioms, which would conflict with his whole theory of the empirical origin of our ideas. This theory is fully developed in the 2d book, in which he shows that our natural faculties are capable of forming every notion that we possess, that the action of these faculties takes its rise from experience, and that the mind may therefore be compared to a sheet of white paper void of all characters till the events of time inscribe them. Having thus stated the principle that all the materials of our knowledge come from experience, he explains it more particularly by making a distinction between sensation and reflection as sources of ideas. The former is observation of the external world, the latter of our own mental operations. Though he uses the term reflection in a wavering and indefinite sense, it does not plainly appear that he ascribed to it any other power than that of a mere formal and logical mechanism, to act upon, to combine and compare, and to extensively modify the materials primarily afforded by the senses. In long and acute processes of reasoning he aims to bring the ideas of space, time, infinity, causality, personal identity, substance, and good and evil within the limits of experience. The 3d book is a treatise on the nature, use, and abuse of language. In the 4th book he passes from ideas to knowledge, from psychology to ontology, treating the question as to the adequacy of our ideas and the reality of

our knowledge. He held a representative theory of perception, maintaining that the mind does not know things immediately, but by the intervention of ideas; that knowledge is real only in so far as there is conformity between our ideas and the reality of things; and that ideas may be entirely inadequate, however distinct they are, thus rejecting the criterion of Descartes. This theory contains the germ of utter scepticism, and was the ground on which Berkeley denied the existence of the material world, and Hume involved all human knowledge in doubt. The distinction established by Kant between the cause and the occasion of our conceptions, making the former to exist in the original constitution of the mind, and the latter in the circumstances of experience, would have removed the fundamental error involved, perhaps without design, in the system of Locke. There are indications in many passages of his work that he was not satisfied with that tendency to sensationalism, which when rigidly developed bore fruits of utilitarianism in morals, materialism in metaphysics, and scepticism in religion.—A biography of Locke was published in 1829 by Lord King, a lineal descendant of his sister, and added to Bohn's "Standard Library" in 1858. The best complete edition of his works is in 10 vols. (London, 1801 and 1812). His philosophical works have been published with a preliminary essay and notes by J. A. St. John (2 vols., London, 1854).

LOCKED JAW. See **TETANUS**.

LOCKHART, JOHN GIBSON, a Scottish author, born in Glasgow in 1792, died at Abbotsford, Nov. 25, 1854. He was educated at the university of Glasgow, and having obtained an exhibition in Balliol college, Oxford, was graduated at the latter place as a bachelor of civil law. After a tour on the continent he settled in Edinburgh, and in 1816 was called to the bar of that city. Although favorably known in the circles of the Scottish metropolis by his accomplishments, he failed to make an impression as an advocate, and upon the establishment of "Blackwood's Magazine" in 1817 became a contributor to its columns. Sharing in the strong Tory prejudices of the conductors, he wielded in their behalf a pen unsurpassed in invective and sarcasm, and which not unfrequently lent itself to coarse personal abuse of political opponents. On subjects other than political he wrote with scholarly grace and vigor, and occasionally contributed original verses or metrical translations from the Spanish and German of genuine merit. In 1819 appeared "Peter's Letters to his Kinsfolk," the joint production of Professor Wilson and himself, containing lively though exaggerated descriptions of Scottish society and manners, with portraits of Jeffrey, Wilson, Scott, Chalmers, and many other notabilities, including himself. A considerable portion of "Christopher in the Tent," published in "Blackwood" in the same year, and several of the earlier "Noctes Ambrosianæ" were also written by him. In the previous year he had met Sir Walter

Scott in Edinburgh, and the intimacy which sprung up between them resulted in Lockhart's marriage, in April, 1820, to Sophia Charlotta, the eldest daughter of Sir Walter. He soon after removed with his wife to Chiefswood, a cottage within 2 miles of Abbotsford, whither his father-in-law was in the habit of going daily for relaxation from his literary labors, or to escape his numerous visitors. He remained, however, a regular contributor to "Blackwood," and at the same time became an industrious writer of fiction. In 1821 appeared his "Valerius, a Roman Story," said to have been written in 8 weeks; in 1822, "Adam Blair," a Scottish tale of a deep and almost tragic interest; and in 1823, "Reginald Dalton," a tale of English university life. In 1822 he edited an edition of "Don Quixote," with copious notes, and in the succeeding year collected and published his translations of "Ancient Spanish Ballads," which had previously appeared in "Blackwood" and elsewhere. This work, which has been repeatedly reprinted in Great Britain and America, is one of his most popular publications, and the splendid illustrated edition of Murray (London, 1841) has circulated by many thousands of copies. In 1824 appeared his last novel, entitled the "History of Matthew Wald." In the latter part of 1825 Sir John T. Coleridge, who had conducted the "Quarterly Review" since the retirement of Gifford, was compelled by professional engagements to resign the editorship, and Lockhart, although only in his 34th year, was invited to supply his place. He accepted the offer, removed to London with his family early in 1826, and filled the responsible position of editor until 1853. Under his charge the "Quarterly" maintained and increased its reputation. He did not entirely relinquish his connection with "Blackwood," however, but contributed occasionally to the "Noctes Ambrosianæ" and to other departments of the magazine. His remaining works are: a "Life of Burns," published in 1828 in "Constable's Miscellany;" a "Life of Napoleon Bonaparte" (London, 1829), which formed the commencement of "Murray's Family Library;" and the "Life of Sir Walter Scott" (London, 1836-'8), originally published in 7 volumes. In relating Scott's business transactions, he allowed his prejudices to get the better of his judgment, and his strictures upon the Ballantynes, the publishers of the Waverley novels, provoked a bitter controversy. The large emoluments which Lockhart received from his literary labors, and a sinecure given him by Sir R. Peel, placed him pecuniarily in easy circumstances, but his latter years were clouded by domestic sorrows. His wife and two sons died before him, and of all the happy circle which used to assemble at Abbotsford, he and his daughter remained the sole survivors. In the infant daughter, Monica, of this lady, whose husband Robert Hope assumed the name of Scott, the pedigrees of Scott and Lockhart are now centred. Lockhart left the "Quarterly Review" in 1853 in shattered health, and

retiring to Abbotsford, now the seat of his daughter, ended his life there. His personal qualities were not of a kind to make him generally popular, although he possessed warm friends. His bearing was aristocratic, and his manner chilling and even supercilious to strangers; and he frequently broke through his reserve only to utter witty sarcasms, in which he was unsurpassed. Those whom he admitted to his friendship, however, claim that beneath his cold exterior he concealed truly generous impulses.

LOCKPORT, a township and village, capital of Niagara co., N. Y., on the Erie canal, and on the Rochester, Lockport, and Niagara Falls railroad, which here crosses the canal by a viaduct 500 feet long and 60 feet above the water; pop. of the township in 1855, 18,886; of the village in 1855, 8,939—in 1860, 12,500. It has large quarries of very fine limestone and of sandstone flagging, which give employment to several hundred men. The surplus water of the Erie canal, which is here raised 60 feet by 5 double combined locks, is distributed by means of a hydraulic canal $\frac{1}{4}$ of a mile long to various manufactories, furnishing an immense water power, and constituting one of the chief sources of prosperity. The village is lighted with gas, and contains 5 flouring mills, 7 saw mills, 5 stove and shingle factories, 2 tanneries, 4 machine shops and foundries, a general manufacturing establishment for steam engines, sewing machines, and farming implements, employing more than 200 men, and a glass factory employing over 100 men. There are 4 banks of issue and 2 savings banks, 5 printing offices, and 2 daily and 8 weekly newspapers. There are 18 churches (1 Baptist, 2 Episcopal, 1 Friends', 2 Lutheran, 2 Methodist, 2 Presbyterian, 2 Roman Catholic, and 1 Universalist), and a union school, a flourishing public institution which provides instruction in all the branches of a liberal education to 600 or 700 pupils. In 1855 there were 5,011 children attending public schools.

LOCOMOTIVE ENGINE. See **STREAM CARRIAGE**.

LOCRI, or **LOCRI EPIZEPHYRI** ("Western Locri"), an ancient city of southern Italy, situated on the S. E. coast of the Bruttian peninsula. It was founded by a colony from Locria, in Greece, in the 1st quarter of the 7th century B. C., and became celebrated by the laws of Zaleucus. In later times Locri was generally an ally of Syracuse, whose tyrant, the elder Dionysius, married a Locrian woman. On the expulsion of his son and successor from the former city, it was in Locri that he sought refuge; but he is said to have abused the confidence of the Locrians, and, seizing on their acropolis, established a despotism over them which endured for 6 years. When Pyrrhus of Epirus invaded Italy, 280 B. C., Locri was garrisoned by a Roman force. On the approach of that monarch, however, the Locrians drove out the Romans, and declared for the Epirote; but having risen against

the mercenaries whom Pyrrhus had stationed in their citadel, during his absence in Sicily, he on his return levied heavy contributions upon them, and carried off a great part of the treasure deposited in the temple of Proserpine. After the departure of Pyrrhus from Italy Locri again submitted to Rome, and remained in this condition till 216 B. C., when, on receiving intelligence of Hannibal's great victory at Cannæ, she went over to the Carthaginians. In 205 B. C. the treachery of the aristocracy enabled the Romans to recover possession of the city, in which a Roman legate with a powerful garrison was now stationed. From this period we hear little of Locri. It existed however as late as the 6th century A. D., and probably owed its destruction to the Saracens. Modern travellers have discovered its ruins near the Neapolitan town of Gerace, where are still visible the fragments of a Doric temple, supposed to have been that of Proserpine.

LOCRI, a country of ancient Greece, occupied by the Locrians, who were said to have been descended from the Leleges. Their territory, in the opinion of Niebuhr, originally extended across the continent from the Corinthian gulf to the Eubœan sea; but the encroachments of the Phocians and Dorians deprived them in time of the central portions, and confined them to the maritime districts. The Opuntii and Epicnemidii, whose territories lay toward the east, became comparatively polished and civilized; but the western tribe, who were distinguished by the contemptuous epithet of Ozolian, remained to the last in a semi-barbarous state. The territories of the Locri Epicnemidii (so called from their proximity to Mount Cnemis) and Locri Opuntii (named from their chief city Opus) stretched along the Eubœan sea and Mælian gulf from the mouth of the river Cephissus to the pass of Thermopylæ, save where a strip of Phocis intervened and severed them. The Locrians are mentioned by Homer, who represents them as following Ajax, the son of Oileus, to the Trojan war, with 40 ships. In the Persian war the Opuntii sent a contingent under Leonidas to Thermopylæ, and a squadron of 7 ships to aid the confederate fleet. During the Peloponnesian war the eastern Locrians sided with Sparta.—The territory of the Ozolian or western Locrians was bounded N. E. by Doris, E. by Phocis, S. by the Corinthian gulf, and W. and N. W. by Ætolia. It is a mountainous and barren district. The chief towns were Amphissa, Naupactus, and Eupalium. The Ozolian Locrians first appear in history during the Peloponnesian war, and are classed by Thucydides with the half-savage Ætolians and Acarnanians, whom they resembled in their customs, arms, and manner of fighting. In 426 B. C. they promised to aid the Athenian general Demosthenes against the Ætolians, but after the defeat of that officer they submitted without opposition to Eurylochus, the Spartan commander. In the latter days of Grecian independence they were members of the Ætolian confederacy. After

the Roman conquest of Greece, all Locris was absorbed in the province of Achaia.

LOCUST, a saltatory orthopterous insect, of the family *locustida*, and the genera *acridium* (Geoffr.), *locusta* (Linn.), and *tetrix* (Latr.), characterized by roofed wing covers, short antennae not tapering at the end, 8-jointed feet, and absence of projecting ovipositor. The name locust is derived from Lat. *locus*, place, and *ustus*, burned, from the resemblance of districts ravaged by them to a region desolated by fire. In the locust family the extremity of the body in the female is provided with 4 short wedge-shaped pieces, arranged in pairs, and moving up and down like double nippers; these are forced into the ground, enlarging the hole as they are opened and withdrawn until it is deep and large enough to receive the eggs. The males make a loud noise by rubbing their hind legs across the projecting veins of the wing covers, like playing upon a violin, the sound being intensified by a sonorous cavity in the 1st abdominal segment. The hind legs are very powerful, enabling them to leap much better than the grasshoppers; their strong and narrow wings give them the power of rapid and long continued flight, accompanied by a loud whizzing noise, compared in their immense swarms to the rushing of a whirlwind, the rattling of chariots, and the crackling of burning stubble. In the genus *acridium* there is a projecting spine or tubercle on the breast between the fore legs; three species, *A. alutaceum*, *flavo-vittatum*, and *femor-rubrum*, are described by Dr. Harris in his report on "Insects Injurious to Vegetation." In the genus *locusta*, differing from the preceding by the absence of the spine on the breast, and including the famous migratory locust of the East, Dr. Harris describes 15 American species. The Carolina locust, about 1½ inches long with an expanse of wings of about 8 inches, is pale yellowish brown, with dusky spots, black wings broadly margined with yellow; this species, well known for its sharp noise during the hottest days of summer, is found abundantly by the roadside, flying before the traveller to a considerable distance; it prefers warm and dry places, but is sometimes seen near salt marshes in company with the red-legged species; the eggs, deposited in the ground in autumn, are hatched in the following spring. In the genus *tetrix*, or grouse-locust, Dr. Harris describes 7 species; they are found in the hottest places, and leap to an astonishing distance; they may be known by their small size, and their keeled thorax resembling a reversed boat.—The celebrated locust of the East (*locusta migratoria*, Linn.; placed in the genus *acridium* by Latreille) is about 2½ inches long, of a greenish color obscurely spotted, with pale brown wing covers marked with black. Its special habitat is western Asia, northern Africa, and southern Europe, whence it has spread even to England and northern Europe. It is destructive in all its forms, in the larval, nymph, and perfect conditions, feeding vor-

ciously on plants. It will be sufficient here to allude to the devastations committed by locusts, as most books of eastern travel describe the steady and irresistible progress of their vast swarms, destroying every trace of vegetation in the districts visited by them. Their numbers are so incredible that rivers have been blocked and many square miles covered by them, the stench of their decaying bodies infecting the air for hundreds of miles. Messrs. Kirby and Spence mention an army of locusts which ravaged the Mahratta country, extending in a column 500 miles long, and so compact that it obscured the sun like an eclipse; this, however, was another species, of a red color, which produced an additional bloody hue as they stripped the trees of their foliage. Many are the allusions in the Old Testament to the flight of these insects, and the prophet Joel (ch. ii.) gives a magnificent description of their appearance. The locusts were considered by the Jews and eastern nations, and still are by the Arabs, as the avenging armies of the Deity; the latter assert that a statement to this effect exists in good Arabic on the wings of the insect; they do not occur in large swarms every year, but only every 4th or 5th season, and generally toward the end of May. Locusts are used as food in the countries where they abound; the legs and wings being pulled off, the bodies are fried in oil, and are considered a delicacy; they are sometimes dried in the sun, pounded up, and used as a flour for making bread. In many towns in Arabia there are shops where locusts are sold by measure. Other species are common in Africa, where they are also used as food. Gordon Cumming describes these insects in Africa as coming on like a snow storm, flying slowly and steadily about 100 yards from the ground; the air was darkened by their masses, and the plain upon which he stood became densely covered with them; as far as the eye could reach in every direction, they stretched in one unbroken cloud, and more than an hour elapsed before their devastating legions swept by; they form in Africa food for man, cattle, carnivora, and birds. Locusts have also committed considerable ravages in America; most of the devastation popularly attributed to grasshoppers really belongs to locusts, and most often to the red-legged species (*A. femur-rubrum*, De Geer); they have proved specially destructive to the grass of salt meadows, clover, corn, and vegetables, until arrested by the early frosts; the hay crop is sometimes so much tainted by their decaying bodies that cattle refuse to eat it; toward the middle of the 18th century these insects were so abundant in northern New England that days of fasting and prayer were appointed on account of the wide-spread calamity.—Various methods have been resorted to to check the ravages of locusts. A bounty has been given for the collection of their eggs, which may easily be turned out of the ground; the adults are taken by means of cloths and nets swept over the fields; destroyed by boil-

ing water, they are greatly relished by hogs. They are devoured by insectivorous mammals and birds, especially domestic fowls; the sand wasp preys upon them; intestinal worms (*gordius*) and red mites (*ocypete*) feed upon their juices and finally kill them; winds sweep them into the sea, and immense numbers are drowned by the high tides which inundate the marshes. The natural causes of destruction, after all, are more to be relied on than the occasional and isolated attempts of the farmer, who here rarely suffers in comparison with those of eastern nations.—The harvest fly and some species of grasshoppers are often erroneously called locusts in the United States. (See GRASSHOPPER, and HARVEST FLY.)

LOCUST (*Robinia*, Linn.), a North American genus of trees and shrubs, bearing stipular spines, flat seeds in many-seeded, compressed, nearly sessile pods (legumes), preceded by showy white or rose-colored flowers, in simple, usually pendent, axillary racemes. The common locust tree (*R. pseudacacia*, Linn.) grows in some districts to a great size, with a straight, lofty stem, covered with a thick, deeply and irregularly furrowed bark, and with strong, rude branches, ending in slender, virgate spray, which is clothed in summer with a soft velvety foliage, consisting of unequally pinnate leaves, often seen bright and clean by the dusty roadsides in the heat of the season, and then refreshingly beautiful; or earlier, with a profusion of fragrant, clustered, pendent blossoms. The locust tree loves the fertile soils westward of the Alleghany mountains, and extends thence as far as Arkansas; but it is not indigenous north of Pennsylvania, nor to be found near the sea coast in the southern states. When growing upon thin soils, it is observed that it greatly improves them if unmolested, probably by the rapidity with which its small leaflets decay and form a natural compost or surface soil, bringing in a grassy sod. It has even been deemed advisable by some agriculturists to use it for artificial plantings upon thin and poor lands, employing the suckers, which spring up plentifully around the older trees, or even by planting out pieces of the roots. It readily grows from the seeds, which, ripening in October, should be sown immediately, and will come up in the following summer. Close coppices, woods, or thick belts of locust trees succeed better than single plantings, it having been discovered that exposure to the free air and sunlight is favorable to the habits of destructive insects, especially to the locust tree borer (*elytus pictus*, Drury), which causes premature death. It would appear that this species of insect must have increased rapidly within comparatively a few years, and subsequent to the lofty growth and gigantic proportions of fine old specimens yet to be seen in various parts of the country, and not wanting even in Massachusetts, where the tree is not indigenous. The usual appearance of individuals that have sprung up from chance seeds or from suckers is that of straggling bushes rather than

of thrifty trees, and as such better fitted for hedge rows than for forest planting. No remedy against the borer has promised so much as thick planting. The free and unrestrained growth of the locust tree is very rapid, and its stem increases in magnitude to such a degree as to make valuable timber. It is not uncommon for young plants to attain a growth of 8 or 10 feet in a single summer, and one sprout from a young stump of a yellow locust tree grew 16½ feet. For certain uses in ship building the wood of the locust is preferable to any other timber. Where strength or durability in the material is required, its value is acknowledged. It makes excellent posts for gates or sleepers for foundations; and mill cogs and similar articles in constant wear are constructed of it. A tree so beautiful, so rapid in increase, so valuable in economic uses, recommends itself for artificial cultivation upon acres of land otherwise almost valueless and to be found on every extensive farm. The locust tree was carried into Europe in the time of Henry IV. of France, and was named *Robinia* in honor of Robin, father and son, who first introduced and cultivated it. A southern species, known as the glutinous locust (*R. viscosa*, Ventenat), occurs upon the mountains of Georgia and Carolina; it is from 20 to 40 feet high, with leaves unequally pinnate, of 5 to 7 pairs of leaflets, the petioles, peduncles, and young wood covered with a viscid pubescence. The flowers are white tinged with pink; the seed pod is obliquely lanceolate, mucronate, when young pubescent, 8 to 4 seeded. This species is cultivated at the North for its ornamental properties, the flowers being considered very beautiful. One other species (*R. hispida*) is only a straggling shrub from 8 to 5 feet high, but its flowers are very large and of a deep rosy color. The branches, stalks, and pods are bristly; but there is a variety (*R. h. rosea*) having nearly smooth branches and petioles, which, according to Pursh, grows in the high mountains of Virginia and Carolina; and still another (*R. h. nana*), growing in the pine barrens of South Carolina, so dwarf as to be scarcely a foot high. The hispid locust is sometimes called rose acacia, and is much cultivated under this name. As it has a disposition to throw up from its roots numerous suckers, it is the much better way to graft it into the common locust; and when thus set on a tall young stock of that species, the effect is exceedingly beautiful. The hispid locust may be trained to a trellis with good success.—The term locust tree is applied to another genus, the *Gleditsia*, of which the one-seeded water locust (*G. monosperma*) is an instance; a small tree, with broadly oval, oblique, flat legumes, destitute of pulp; the wood is of little value; this tree is found in swamps of South Carolina, Florida, Louisiana, and Texas. The sweet or honey locust (*G. triacanthos*, Linn.) is, on the contrary, a large tree, with a trunk sometimes of a diameter of 8 to 4 feet; but its wood, though hard, is not very valuable. The foliage of the *Gleditsia* is beautiful, con-

sisting of numerous finely pinnate dark green leaves; its flowers are very small and almost inconspicuous, its pods are very long and somewhat twisted, containing many hard, polished seeds, invested in a sweetish pulp, which, fermented, is made into a sort of beer in some of the southern states, where the tree is found growing wild. The species has been employed in making hedges, and with very good success; the long, irregular, but flexible branches, and sharp spines or thorns with which they are clothed, are found effectual in keeping off such animals as would intrude. A variety is frequently raised from seed, which is unarmed or thornless, and equally beautiful as a shade tree. Usually the honey locust is prolific in seed pods, but sometimes large trees have proved entirely barren, a fact accounted for by the polygamous character of the flowers. The Chinese honey locust (*G. Sinensis*, De Lamarck) is a tree very distinct, according to Desfontaines, from the American species, having very strong, branching thorns, and these frequently occurring in bundles upon the trunk; its legumes, too, are rarely more than 6 inches long; as a tree it is better suited to the climate of Paris than is the 8-thorned honey locust. There is a variety with large, robust, much compressed, trifid thorns besetting its trunk, which rises to the height of 80 to 50 feet, and is called *G. S. ferax* (Desfontaines). The Caspian honey locust (*G. Caspica*, Desf.) has slender, trifid, compressed prickles, is a native of Persia, and was introduced into cultivation in 1822.

LODGE, THOMAS, an English author and physician, born in Lincolnshire about 1555, died in London in Sept. 1625. He was educated at Trinity college, Oxford, and became an actor and dramatist. In 1584 he was entered as a law student at Lincoln's Inn; next turned soldier, and accompanied the expeditions of Clarke and Cavendish; and then, abandoning the profession of arms, went to Avignon and applied himself to the study of medicine. Having obtained his degree of M.D., he proceeded once more to London, and there began to practise as a physician, in which capacity he achieved great success owing to his intimate relations with the Roman Catholic party. He is said to have fallen a victim to the plague. The most important of his works are: "Rosalynde: Euphues Golden Legacie" (1590), a novel, chiefly interesting as the basis of Shakspeare's "As You Like It," and reprinted in Collier's "Shakspeare's Library"; "The Wounds of Civill War lively set forth in the True Tragedies of Marius and Scilla," a drama (1594, reprinted in Dodsley's "Old Plays"); and "A Margarite of America" (1596), a tale, said to have been written during his voyage with Cavendish. Lodge also wrote a "Defence of Stage Plays" (1580), a "Treatise of the Plague" (1608), and translations of Josephus and Seneca (1602-'14).

LODI, or LODI-E-CREMA, a province of Lombardy, bounded N. by Bergamo, E. by Cremona, S. by the duchy of Parma, from which it is sep-

arated by the Po, and W. by Milan; area, 459 sq. m.; pop. 218,844. The surface is a vast plain watered by the Adda, Serio, Lambro, and other affluents of the Po. The soil is extremely fertile, and produces corn, wine, flax, pulse, and the mulberry. A large proportion of the land is occupied by pastures, and cattle are extensively reared for dairy purposes. The celebrated Parmesan cheese, so named from Parma, whence it was first exported, is now made chiefly in this province, and employs the milk of 30,000 cows. There are few manufactures except of linen and cordage.—LODI, the capital, is an episcopal town, situated on the right bank of the Adda, here crossed by a bridge, 18 m. S. E. from Milan; pop. about 18,000. It is built on a small hill and surrounded by a wall with 4 gates, beyond which lie extensive suburbs. It is generally well built, having a number of handsome streets and a public square lined with arcades. Its cathedral is an interesting structure of the 12th century. Several of the other public edifices are beautiful models of architecture, and the town has 2 or 3 palaces, a theatre, lyceum, gymnasium, diocesan seminary, an English female institute, a public library, 2 hospitals, and a number of schools. The most important article of trade is cheese. Bonaparte gained a victory over the Austrians at the bridge of Lodi, May 10, 1796.

LODOMERIA, the Latin name of the principality of Vladimir in Volhynia in the middle ages. On the 1st division of Poland, in 1772, Austria gave the name of Galicia and Lodomeria to its share. (See GALICIA.)

LOFFODEN, LOFODEN, or LOFOTEN, a group of islands off the N. W. coast of Norway, between lat. 67° 30' and 69° 30' N., long. 12° and 16° E.; pop. about 4,000. The largest are Andøen, Langøen, Hindøen, E. and W. Vaagen, and Flagstadøen. The coasts are extremely rugged and deeply indented, and the interiors are mountainous and sterile. During the season they are visited by about 4,000 boats with 20,000 fishermen. The average produce of the cod fishery is about 9,000 tons of dried fish, 22,000 barrels of oil, and 6,000 barrels of roe. The cod fishery ends in April, but the herring fishery continues, and furnishes an important branch of national revenue. Near the S. end of the group is the famous whirlpool called the Maelström.

LOFTUS, WILLIAM KENNETT, an English archæologist, born in Rye, Sussex, about 1820, died on the passage from India to England in Nov. 1858. He was educated at Cambridge, where he attracted the attention of Professor Sedgwick, who proposed him as a fellow of the geological society, and subsequently of Sir Henry de la Beche. The influence of the latter procured him an appointment on the Turco-Persian commission for the settlement of the frontier between Turkey and Persia, and for 4 years (1849-'52) he was a resident of Asia Minor and the regions on the Tigris and Euphrates, where he successfully explored the mounds under which the ancient cities of the East are buried. In 1853 he revisited the same ground under the

auspices of the Assyrian society, and upon his return to England the results of his researches were given in a handsome volume embellished with engravings of the sculptures and cuneiform inscriptions of Babylonia, Chaldæa, and Susiana. Subsequently he received an appointment on the staff of the geological survey of India, the operations of which were interrupted by the mutiny of 1857-'8. He died from the effects of a *coup de soleil* and of repeated attacks of fever caught on the banks of the Tigris and Euphrates. The specimens of ancient sculpture which he sent to the British museum are hardly inferior in interest to those excavated by Layard, and he was the reputed discoverer of the city or cemetery of Warka, supposed to be the biblical Erech.

LOG, and LOG LINE, an apparatus used in connection with the half minute glass for obtaining the approximate rate of the movement of a vessel through the water. The log is a triangular or quadrangular piece of board, one side of which has a circular edge, and is weighted with lead, so as to cause the piece to sit upright when thrown into the water. It is attached by cords from its corners to the log line, which is a stout cord about 150 fathoms long, divided by knots or slips of leather into spaces called knots, and wound on a reel which revolves with freedom. Its use is called "heaving the log," and consists in dropping the wood over the stern of the vessel, with a quantity of the line sufficient to reach from the vessel to the log, at the instant the half minute glass is turned up. The reel is held up so that the line may run off freely as the vessel moves away from the log; and as the last sands run through the glass, the reel is instantly stopped. The number of knots run off in the half minute indicates the rate of motion of the vessel. This method of measurement is very inaccurate, a heavy sea sometimes throwing the log after the ship, while a head sea may carry it in the opposite direction. The glass also measures the half minute differently in damp and dry weather, and the line is liable to change its length. Various empirical allowances are made, which add but little to the correctness of the apparatus. It is not known when or by whom this contrivance was invented. Humboldt says, that in all writings on the subject, including the "Encyclopædia Britannica," he found the erroneous opinion expressed that the log was not introduced before the end of the 16th or the beginning of the 17th century, while it is certain that Pigafetta, the companion of Magellan, in the beginning of the 16th century, speaks of the log (*la catena a popa*) as of a well known means of measuring the course passed over. Purchas makes mention of it in 1607; but the length of a degree of the meridian not being then determined, its divisions were necessarily inaccurate. They were corrected in 1637 by Norwood. The length of a sea mile is now estimated at about 6,086.7 feet; and as the length of the knot is intended to bear the same proportion to this that half a minute bears to an hour, the measurement of the knot

is properly 51 feet. Each one is divided into 10 parts called fathoms. For glasses which run out in 28 seconds, the length of the knot should be 47.6 feet.—Numerous substitutes for the log have been contrived. The best of these is that of Massey. A box shaped like a wedge is provided with a spindle to which 4 wings are fixed spirally. With this are connected registering wheels somewhat on the plan of those of the gas meter, their object being to record the number of revolutions of the spindle. This is carried round by the motion against the water as the box is towed astern by a stout line 60 fathoms long. The box is hauled in, and the record noted whenever the course is changed; but while the ship runs full 8 knots the register is not reset except once every 24 hours. At a less rate than 8 knots its indications are uncertain from not towing horizontally.

LOGAN. I. A W. co. of Va., bordering on Ky., drained by the Guyandotte and the Tug fork of Sandy river; area, 750 sq. m.; pop. in 1850, 3,620, of whom 87 were slaves. The surface is uneven and the soil generally good. Iron and coal are abundant in the highlands of the county. In 1850 it produced 1,588 bushels of wheat, 154,943 of Indian corn, 8,358 lbs. of tobacco, and 8,202 of wool. There were 6 churches, and 175 pupils attending public schools. Named from the celebrated Indian chief Logan. Capital, Arracoma. II. A S. W. co. of Ky., bordering on Tenn., and drained by branches of the Green and Cumberland rivers; area, 478 sq. m.; pop. in 1850, 16,581, of whom 5,467 were slaves. The surface, resting on cavernous limestone, is finely diversified and well timbered, and the soil fertile. It contains a number of ancient artificial mounds. The productions in 1850 were 1,103,186 bushels of Indian corn, 242,840 of oats, 2,684,787 lbs. of tobacco, and 38,001 of wool. There were 15 grist mills, 8 saw mills, 4 tanneries, 39 churches, and 740 pupils attending public schools. Named in honor of Gen. Benjamin Logan, a pioneer of Kentucky. Capital, Russellville. III. A central co. of Ohio, drained by the Miami river and its branches; area, 425 sq. m.; pop. in 1850, 19,162. The surface is moderately rolling or level, and the soil fertile. In 1850 the productions were 168,811 bushels of wheat, 665,606 of Indian corn, 97,562 of oats, 25,150 of potatoes, and 88,258 lbs. of wool. There were 18 grist mills, 80 saw mills, 2 iron founderies, 7 tanneries, 27 churches, and 7,965 pupils attending public schools. It is intersected by the Mad river and Lake Erie and the Bellefontaine and Indiana railroads. Capital, Bellefontaine. IV. A central co. of Ill., intersected by Salt creek and drained by Kickapoo and Sugar creeks; area, 529 sq. m.; pop. in 1855, 8,824. The land is level and fertile. In 1850 the productions were 889,638 bushels of Indian corn, 26,598 of wheat, 35,728 of oats, and 23,527 lbs. of wool. There were 6 grist mills and 6 saw mills. The county is intersected by the Chicago and Mississippi railroad. Capital, Mount Pulaski.

LOGAN, the English name of the Indian chief Tah-gah-jute, celebrated in American revolutionary and colonial history, born about 1735, killed on the southern shore of Lake Erie in the summer of 1780. He was the son of Shikellamy, a celebrated chief of the Cayugas, who lived at Shamokin on the Susquehanna, and was called Logan from James Logan, the secretary of Pennsylvania and a firm friend of the Indians. In his early manhood he was known throughout the frontier of Virginia and Pennsylvania for his fine personal appearance, his engaging qualities, and his friendship to the whites. About 1770 he removed with his family to the banks of the Ohio, where he gave way in a measure to intemperance. In the spring of 1774 his family were massacred, it was alleged, by a party of whites led by Capt. Michael Cresap, under the pretext of retaliation for Indian murders; but it is exceedingly doubtful whether Cresap had any connection with the transaction. Logan at once instigated a war against the scattered settlers of the far West, and for several months fearful barbarities were perpetrated upon men, women, and children. He himself took 80 scalps in the course of the war, which terminated after a severe defeat of the Indians at the mouth of the Great Kanawha. He disdained to appear among the chiefs who subsequently sued for peace, but sent by an interpreter to Lord Dunmore, the governor of Virginia, the following speech explaining his conduct, which was first published in Jefferson's "Notes on Virginia:" "I appeal to any white man to say if ever he entered Logan's cabin hungry, and he gave him not meat; if ever he came cold and naked, and he clothed him not. During the course of the last long and bloody war Logan remained idle in his cabin, an advocate for peace. Such was my love for the whites that my countrymen pointed as they passed, and said, Logan is the friend of the white men. I had even thought to have lived with you, but for the injuries of one man. Colonel Cresap, the last spring, in cold blood and unprovoked, murdered all the relations of Logan, not even sparing my women and children. There runs not a drop of my blood in the veins of any living creature. This called on me for revenge. I have sought it; I have killed many; I have fully glutted my vengeance. For my country I rejoice at the beams of peace. But do not harbor a thought that mine is the joy of fear. Logan never felt fear. He will not turn on his heel to save his life. Who is there to mourn for Logan? Not one." His habits of intemperance grew upon him after this, and while frenzied with liquor he felled his wife by a sudden blow, so that she lay to all appearance dead. He fled, and while traversing the wilderness between Detroit and Sandusky was overtaken by a party of Indians. Supposing his avengers at hand, he prepared to attack them, and was killed by his relative Tod-hah-dohs in self-defence.

LOGAN, JAMES, an American colonial statesman and author, born in Lurgan, Ireland, Oct.

20, 1674, died at Stenton, near Philadelphia, Penn., Oct. 31, 1751. By his own efforts he acquired a knowledge of the chief ancient and modern languages, and was well informed in mathematics and various branches of natural science. In 1699, being then established in trade in Bristol, England, he accepted an invitation from William Penn to accompany him to America in the capacity of secretary. In 1701, upon the return of Penn to England, he was appointed provincial secretary, and he subsequently filled the offices of commissioner of property, chief justice, and president of the council, discharging in the last capacity the duties of governor of the province for two years after the demise of Gov. Gordon in 1736. The latter years of his life were passed at his seat called Stenton, near Philadelphia, in the pursuit of literature and science. His chief work, *Experimenta et Meletemata de Plantarum Generatione* (Leyden, 1739; London, translated from the Latin by Dr. Fothergill, 1747), an expansion of a paper on the growth of maize published in the "Philosophical Transactions" for 1735, was considered an important contribution to the science of botany. He was the author of two other Latin treatises of a scientific character published in Holland, of an English translation of Cicero's *De Senectute*, published in 1744 by Benjamin Franklin, and of Cato's "Disticha," the latter in verse; and he left a variety of papers on ethics and philology. The translation of Cicero was the first original one of a classical author printed in America, and has been called the best previous to Melmoth's. His library, numbering about 2,000 volumes, was, in conformity with his desire, presented to the city of Philadelphia, and is deposited in a separate department of the Philadelphia library under the name of the Loganian library. He was a member of the society of Friends.—GROVER, an American statesman and philanthropist, grandson of the preceding, born at Stenton, Sept. 9, 1753, died there, April 9, 1821. He was educated in England, subsequently studied medicine in Edinburgh, where he took the degree of M.D., and after an extended tour on the continent returned in 1779 to America. For many years he devoted himself to agricultural pursuits, which he was one of the first in America to prosecute successfully in a scientific manner. He also served several terms in the Pennsylvania legislature. At the outbreak of the French revolution he embraced with enthusiasm the democratic doctrines which it inaugurated, and joined Jefferson and the republican party in opposition to the federalists. In 1798, the United States being then on the brink of a rupture with the French republic, he departed for France, principally at his own suggestion, under the idea that he might contribute to the preservation of peace. He was well received by Talleyrand and Merlin, then chief of the directory, and returned to America with the assurance of the desire of the French government to renew amicable relations with the United States.

But as he had taken with him letters of introduction from Jefferson instead of passports from the state department, he was denounced by the federalists on his return as the treasonable envoy of a faction who had undertaken to institute a correspondence with a foreign and hostile power. He was coldly received by Washington and President Adams, and in the latter part of 1798 an act, known as the "Logan act," was passed by congress, making it a high misdemeanor for a private citizen to interfere in a controversy between the United States and a foreign country in the manner he had done. He was subsequently elected to the U. S. senate, of which body he remained a member from 1801 to 1807; and in 1810, urged by the same philanthropic motives which had induced him to visit France 12 years before, he went to England in the hope of preserving peace. In 1797 he published "Experiments on Gypsum" and "Rotation of Crops."

LOGAN, JOHN, a Scottish clergyman and author, born in Fala, Edinburghshire, in 1748, died in London, Dec. 28, 1788. He completed his education at the university of Edinburgh. In 1768, on the recommendation of Dr. Blair, he was appointed tutor to the afterward celebrated Sir John Sinclair. He soon returned to Edinburgh, and, having obtained a license as preacher in the established church of Scotland, he was nominated a minister of the town of Leith in 1773. In 1779 he delivered in Edinburgh a course of lectures on the philosophy of history, and in the following year was an unsuccessful candidate for the professorship of history in the university. Being charged with drunkenness by his parishioners in 1785, he was under the necessity of retiring from the ministry on a small pension. He now repaired to London and devoted himself to literary composition. He was not only an eloquent orator and lecturer, but also a gifted poet. His "Ode to the Cuckoo" (1770), and his "Hymns," which have been incorporated into the psalmody of the church of Scotland, entitle him to high rank as a lyricist. A volume of his poems was published in 1781, a new edition of which in 1805 contains a life of the author. The most important of his other works are "Runnabede," a tragedy produced on the Edinburgh stage in 1788; "View of Ancient History," &c. (London, 1788); "Review of the Principal Charges against Mr. Hastings" (1788), a defence of the ex-governor-general esteemed so formidable by his enemies that they arraigned its publisher, Stockdale, for a breach of the privileges of the house of commons; and two volumes of sermons edited by Dr. Robertson in 1790-'91.

LOGAN, SIR WILLIAM EDMOND, a Canadian geologist, born in Montreal in 1798. He was educated at the high school and university of Edinburgh, and in 1818 entered the mercantile office of his uncle, Mr. Hart Logan, of London, and after a time became a partner in the firm. In 1829 he went to Swansea as manager of copper smelting and coal mining operations in which his uncle was interested, but left it soon

after the death of the latter in 1838. During his 7 years' residence in South Wales, Mr. Logan devoted himself to the study of the coal field of that region; and his minute and accurate maps and sections were adopted by the ordnance geological survey, and published by the government. He was the first to demonstrate that the stratum of under clay, as it is called, which always underlies coal beds, was the soil in which the coal vegetation grew. In 1841 Sir William visited the coal fields of Pennsylvania and Nova Scotia, and communicated several valuable memoirs on the subject to the geological society of London. At this time he began an examination of the older palæozoic rocks of Canada, and a geological survey of Canada having been commenced, he was placed and still continues at its head, having refused for it a very advantageous offer of a similar position in India. In the course of his investigations upon the rocks of the eastern townships, which are the continuation of those of New England, Sir William has shown that so far from being, as had been supposed, primitive azoic rocks, they are altered and crystallized palæozoic strata; a fact which, although suspected, had not hitherto been demonstrated, and which is the key to the geology of north-eastern America. He found the rocks which form the Laurentide and Adirondac mountains, previously regarded as unstratified, to be disturbed and altered sedimentary deposits of vast thickness, equal perhaps to all the hitherto known stratified rocks of the earth's crust. In 1851 he represented Canada at the great exhibition in London, and was also a commissioner from Canada at the industrial exhibition at Paris in 1855, when he received from the imperial commission the grand gold medal of honor, and from the emperor the decoration of the legion of honor. He was knighted in 1856, and in the same year was awarded by the geological society, of which he has long been a member, the Wollaston palladium medal, for his eminent services to geology.

LOGANSPOUT, a city and the capital of Cass co., Ind., on the Wabash river at its junction with Eel river; pop. in 1859, about 4,500. It is situated in a fertile region, for which it is an active centre of trade. In 1850 it contained 6 churches (1 Baptist, 1 Episcopal, 1 Methodist, 2 Presbyterian, and 1 Roman Catholic), 3 banks, and an academy. Two bridges cross the Wabash and one the Eel river at this place.

LOGARITHMS (Gr. *λογος*, reason, and *ἀριθμός*, number), numbers so related to the natural numbers that the multiplication and division of the latter may be performed by addition and subtraction, and the raising to powers and the extraction of roots by very simple multiplication and division. The labor of these operations by the ordinary processes of arithmetic, when the numbers are composed of many figures, is enormous. By the use of logarithms, for the invention of which the world is indebted to John Napier of Merchiston, Scotland, this labor is greatly diminished.—The general theory of

logarithms is very simple. All numbers whatever may be regarded as the powers of some other number taken as a base. Thus, taking as a base the number 8, its successive integral powers give the series of numbers 8, 64, 512, 4,096, &c.; for $8^1 = 8$, $8^2 = 64$, $8^3 = 512$, $8^4 = 4,096$, &c. But it is not necessary to limit the series to the integral powers. The cube root of $8 = \sqrt[3]{8} = 8^{\frac{1}{3}} = 2$; the square of the cube root of $8 = \sqrt[3]{8}^2 = 8^{\frac{2}{3}} = 4$. The first power of 8 multiplied by the cube root $= 8 \times 8^{\frac{1}{3}} = 8^{\frac{4}{3}} = 16$; $8 \times 8^{\frac{2}{3}} = 8^{\frac{5}{3}} = 32$, &c. Other fractional powers would give the numbers omitted in this series; so that a power of 8 could be found which would be equal to any number whatever. By taking negative powers, fractions would come into the series. In a system of logarithms of which 8 is the base, the logarithms are the exponents of the powers to which 8 must be raised to produce the number. Thus, as above, $\frac{1}{3} = \log. 2$, $\frac{2}{3} = \log. 4$, $1 = \log. 8$, $1\frac{1}{3} = \log. 16$, $1\frac{2}{3} = \log. 32$, $2 = \log. 64$, $2\frac{1}{3} = \log. 128$, &c. It is obvious that the base of the system may be taken to be any positive number except unity. To demonstrate the general principles of logarithms, let a represent the base of the system, m any number, and x its logarithm; then the relation between the number m and its logarithm is expressed by the equation $a^x = m$. That is, the logarithm of a number is the exponent of the power to which the base must be raised to produce the number. Let m and n be two numbers, x and y their logarithms, and a the base; then $a^x = m$; $a^y = n$. Multiply the first members of these equations together, and we have $a^x \times a^y = a^{x+y} = mn$. That is, $x + y = \log. mn$; or the logarithm of the product of two numbers equals the sum of the logarithms of the numbers themselves. Dividing the first of the equations above by the

second, we have $\frac{a^x}{a^y} = \frac{m}{n}$, or $a^{x-y} = \frac{m}{n}$; that

is, $x - y = \log. \frac{m}{n}$, or the logarithm of the quotient of one quantity divided by another is equal to the logarithm of the dividend, less the logarithm of the divisor. In the equation $a^{x+y} = mn$, if we make $m = n$, then $x = y$, and we have $a^{2x} = m^2$; $2x$ is then the logarithm of m^2 , or the logarithm of the square of a number equals twice the logarithm of the number itself. By similar reasoning it is shown that the logarithm of the cube of a number equals 3 times the logarithm of the number, &c. If we take $m^2 = p$, then $m = \sqrt{p} = p^{\frac{1}{2}}$; but $\log. m^2 = 2 \log. m = \log. p$. Substituting in the last equation \sqrt{p} for m , it becomes $2 \log. \sqrt{p} = \log. p$, or $\log. \sqrt{p} = \frac{1}{2} \log. p$; i. e., the logarithm of the square root of a number equals half the logarithm of the number itself. In the same way it may be shown that the logarithm of the cube root of a number equals $\frac{1}{3}$ the logarithm of the number, and the logarithm of any root of a number equals the logarithm of the number divided by the exponent of the root.—The system of logarithms in

common use is that proposed by Henry Briggs, professor of geometry at Oxford, soon after the publication of Napier's invention in 1614. Briggs used as the base of his system the number 10, and it was soon universally accepted, being so well adapted to the decimal notation. The logarithm of any number in this system is the exponent of the power to which the number 10 must be raised to produce the number. Thus, since $(10)^0 = 1$, $(10)^1 = 10$, $(10)^2 = 100$, $(10)^3 = 1,000$, $(10)^4 = 10,000$, &c., 0, 1, 2, 3, 4, &c., are the logarithms respectively of 1, 10, 100, 1,000, 10,000, &c. A number between 1 and 10 will have for its logarithm a fraction between 0 and 1. Thus the log. of 2 = 0.30103, for $(10)^{0.30103} = 2$. A number between 10 and 100 will have for logarithm a number between 1 and 2; thus the logarithm of 50 = 1.69897, for $(10)^{1.69897} = 50$. Numbers between 100 and 1,000 will have for logarithms numbers greater than 2 and less than 3, or 2 plus a fraction; thus the log. 250 = 2.39794, for $(10)^{2.39794} = 250$, &c.—In order to make logarithms available for purposes of calculation, the logarithms of all numbers between convenient limits are computed and arranged in tables, the natural numbers occupying the leading or argument column, the logarithm being placed opposite in adjoining columns. Sometimes tables are arranged with the logarithms in the leading or argument column; these are called tables of anti-logarithms. For certain purposes logarithms constructed substantially according to the system originally proposed by Napier are used, and are known as Napierian, natural, or hyperbolic logarithms. In this system the base is the number 2.7182818+. These logarithms are of great use in the higher mathematics, and in the investigation of many problems in physics. The Napierian logarithm of a number is equal to the common or Briggs logarithm multiplied by 2.3025851, or divided by 0.4342945.—The early computers of logarithms carried them to 10 places of decimals; but it was soon found that 7 places were sufficient for most of the uses of astronomy, navigation, surveying, &c. In fact, 5-place logarithms are often sufficient, and, being much more convenient and portable, should be used except when very great accuracy is required. The theory and use of logarithms is now taught as a part of liberal education, and it would be well if the compilers of text books would introduce into them only 5-place decimal logarithms. They, however, often use 6-place logarithms, and make the tables of the size common to 5-place logarithms. This very much increases the labor required in using the tables, and so prevents students from acquiring the necessary facility.—An excellent collection of 5-place logarithms is that attached to "Bowditch's Navigator," and also published separately under the title of "Bowditch's Useful Tables." This contains, beside the tables of logarithms for numbers, log. sines, tangents, &c., also many auxiliary tables useful in navigation and surveying. A good collection of 5-place tables by J. Houel (8vo., Paris, 1858) contains

also Gauss logarithms for addition and subtraction. Among tables of logarithms to 7 places of decimals may be mentioned Babbage's, which are very accurate. Taylor's tables (large 4to., London) are very valuable, but difficult to obtain. Shortrede's tables (large 8vo., Edinburgh) contain nearly all the tables required in computing; they are especially designed for military and civil engineers. The tables of Callet (8vo., Paris) are very good; they contain the logarithms of all numbers from 1 to 108,000, with log. sines, tangents, &c., beside tables of Napierian logarithms to 20 places of decimals, and short tables of common logarithms to 20 and to 61 places. For log. sines, tangents, &c., Bagay's tables (4to., Paris) are very convenient; they contain the log. sines and tangents for every second of the quadrant. A new edition of Vega's tables (8vo., Berlin, 1856), edited by Dr. Bremiker, is very convenient, and may be obtained at a very moderate price.

LOGIC (Gr. *λογος*, reason), the science of reasoning. More strictly and properly, it is the science of deducing ideas or conceptions one from another, and of constructing them into propositions, arguments, and systems. A wide range and great diversity of topics have, however, been included in the various treatises written under its name. Some have understood by it an account of the whole mental activity, and defined it as the art of thinking. Others have made it comprise only a knowledge of the first principles, or axioms, from which we reason. Others appear to have held it responsible for the truthfulness of all professedly logical reasoners and processes. Others again have regarded it as chiefly or exclusively an instrument of invention and discovery, and worthless except for the attainment of some new truth. It is now generally held that logic assumes certain first principles or axioms, from which as premises to reason; that it is concerned with the form only of reasoning or argument, and not at all with the subject matter; that it is and of necessity must be a purely *a priori* science, and moreover a hypothetical science, since it neither assumes nor proves as such the reality of any thing, does not assert that any objects corresponding to our conceptions do really exist, but only gives results and conclusions, based on premises, and true provided the premises be true. Logic is thus limited to the method of reasoning. Though commonly regarded as consisting of two parts, analytics and method, it is essentially a constructive science; it explains the way in which theories and systems are constructed from our primary ideas of objects, and it proves and tests, not their truth, but their legitimacy as deductions. In this view, it presupposes psychology, which is a sort of natural history of thought, and it is preliminary and pre-requisite to ontology, the science of being.—Logic begins with ideas. Our ideas of objects are complex wholes, and may be analyzed into conceptions of the known properties of objects. Thus, snow is represented by its properties of

whiteness, coldness, &c., and an orange by its color, shape, &c. These properties, or rather the terms describing them, become predicates which we may affirm of the object. Thus, having analyzed our idea of an orange, we obtain the properties of roundness, &c., and hence may say: "The orange is round." Or, forming a generic conception, we may say: "An orange is a fruit;" "Men are animals." We may thus predicate M of P, and S of M, and then, dropping the common or middle term M, may predicate S of P, a proposition derived by induction from the two premises or primary judgments. The formula, "M is P, S is M, therefore S is P," is called a syllogism, a term which includes any possible combination of two propositions from which is deduced a third, which is hence called a conclusion. The conclusions of preceding syllogisms may become the premises of others *ad infinitum*. The premises may be negative as well as affirmative—S is not P, as well as S is P; they may also include only a part of the subject, as some S is P, some S is not P. Hence there are 4 cardinal propositions:

Universal affirmative: All S is P.
 " negative: No S is P.
 Particular affirmative: Some S is P.
 " negative: Some S is not P.

For convenience these propositions are designated by the 4 first vowels; thus: A, universal affirmative; E, universal negative; I, particular affirmative; O, particular negative. Combining these 4 propositions in all possible ways of 8 in a set, we obtain 64 sets, which are called moods. Of these moods, however, only 11 are found to give valid conclusions, viz.: AAA, AAI, AEE, AEO, AII, AOO, EAE, EAO, EIO, IAI, and OAO. It is found also that the position of the middle term is of essential importance, for let the mood AAA be written thus: "All M is P; all S is M; therefore all S is P;" and it is evident at once that if M is included in the class P, and S is included in the class M, then S must be included in P also. But if the same mood be written: "All P is M; all S is M," then it does not follow that S is included in P; for men are animals, and horses are animals, but men are not therefore horses. Every mood of the syllogism thus has what are termed figures, of which there are four. In the 1st figure, the middle term is the subject of the major premise and the predicate of the minor; in the 2d, the middle term is the predicate of both premises; in the 3d, it is the subject of both premises; and in the 4th, it is the predicate of the major premise and the subject of the minor. The 11 moods each having 4 figures would give 44 syllogisms, of which, however, only 19 are found by examination to be distinct and valid. These are designated by the capital vowels in the following mnemonic hexameters:

BAr bA r A, cEi A r E a t, D A r I I, fE r I O q u e, p r i o r i t:
 C E s A r E, c A m E s t r E a, f E s t i n O, b A r O r O, s e c u n d a:
 T o r t i a d A r A p p i, d i e A m l e, d A i l e l, f E i A p t O n,
 B O k A r D O, f E r l e O n, h a b e t: q u a r t a i n s u p e r a d d i t,
 B r A m A n t l p, c A m E n e s, d i m A r i a, f E s A p O, f r E s l e O n.

When one of the premises is understood, but

not expressed, in the statement, the syllogism is called an *enthymema*. When several premises are employed for the same conclusion, several syllogisms are in fact abridged into one formula, which is called a *societas*. When one premise is assumed as hypothetically true, and the conclusion is stated as depending upon the truth of the other alone, we have what is called a conditional judgment; and if the conclusion is stated as depending upon the falsity of the other, we have a disjunctive judgment. A conditional or disjunctive proposition may be made the major premise, and then the syllogism be completed as follows: "If A is B, O is D; but A is B; therefore O is D." "Either A is B or C is D; but A is not B; therefore O is D." The major premise may affirm only a comparison or relation between the terms, as: "Where the boy is, there the father is; but the boy is at home; therefore, the father is at home."—Beside the fulfillment of all the conditions of the formulas in syllogisms, there are found to be also certain conditions and laws in regard to the use of words, which are necessary to the validity of the reasoning. The violation of these laws gives rise to fallacies, of which there are reckoned 18, 6 *in dictione* and 7 *extra dictionem*. 1. Equivocation is when a word is used in the same formula in two different senses. 2. Amphibology is when a word is so used as to leave it doubtful whether it be a subject or predicate, or when the reference of a pronoun is ambiguous. 3 and 4. Composition and division are caused by using the same term both collectively and distributively in the same formula, thus: "8 and 2 are two numbers; but 5 is 3 and 2; therefore, 5 is two numbers." Here 5 and 2 are used distributively in the major and collectively in the minor premise. The reverse is true of the word Romans in the following: "The Romans conquered Carthage; Brutus and Cæsar were Romans; therefore Brutus and Cæsar conquered Carthage." 5. Accent may occasion a fallacy by varying the meaning of a proposition. Thus the purport of the question: "Do you ride to town to-day?" may be changed 5 times by changing the accented word. 6. The form of the expression (*figura dictionis*) may lead to a fallacy, as when we infer from the fact that one word ending in *a*, as *mensa*, is of the feminine gender, that therefore another word with a like termination, as *poeta*, is feminine also. 7. The fallacy of accidents arises when we affirm of something described by some accidental property or circumstance what is true only of its substance, as: "We buy raw meat in the market; what we buy in the market, we eat; therefore, we eat raw meat." Here we do not buy meat because it is raw, but because it is meat, for its essence and not for its accidents, and only its essential quality is common to the different members of the argument. 8. Mistaken application consists in giving to a statement a universal application when it was intended for only a limited one. 9. The *ignoratio elenchi* is when

we either fail to give for any particular conclusion the premises required, or draw from given premises a conclusion not legitimately following from them, or employ a legitimate syllogism which does not give the conclusion that the occasion demanded. 10. The *a non causa, pro causa*, is when we reason from a premise that is not true. 11. The fallacy of consequences consists in employing a conclusion not derived from the premises. 12. The *petitio principii*, or begging the question, assumes as true that which should be proved. 13. The fallacy of many questions is when several interrogatories are either expressly or implicitly so combined into one that they must all receive the same answer, though truth requires that some be answered affirmatively and others negatively.—Aristotle was the creator of the science of logic (though he says that Zeno the Eleatic was the founder of dialectics), and his writings have been the basis of most of the treatises on logic that have since appeared. Six separate works constitute his *Organon*. In his "Categories" he treats of the highest generic ideas, which he reduces to 10, and of the nature of terms. In his "Prior Analytics" he examines the nature of propositions and the theory of conclusions; in his "Posterior Analytics," of demonstrable knowledge and the methods of reasoning. His "Topics" embrace dialectics and the discussion of first principles; his *Sophistica* are devoted to fallacies; and he also wrote a work on the art of expression. The whole system of Aristotle is crude and perplexed, as is usually the case with the first draft or statement of any thing that lies far beyond the ordinary thought of men. There has, however, until a late period been little done in the department of logic more than to simplify and rearrange the materials furnished by the Stagirite. He recognized and discussed only the 3 first figures, and the discovery of the 4th is ascribed to Galen. Moreover, he scarcely regards the hypothetical syllogisms or modes as reasoning at all; the discovery of these is ascribed to Theophrastus. It was clearly seen by Aristotle that reasoning depends in some way on the relations of the logical wholes—individual, species, and genus—to one another. Porphyry in his "Introduction to Aristotle" explained more fully and clearly than his master had done the predicables, as they were called, namely, genus, species, differentia, property, and accident. Logic was extensively studied during the middle ages, though no important advance was made in its development. Its use gave rise to the scholastic method, which consists in applying the formulas of reasoning to terms, or to general principles deduced by definition or otherwise from terms. This method is of course legitimate, and the only one that is at all legitimate, in mathematics, and in all *a priori* or demonstrative sciences. But in the natural sciences the first principles or topics are the facts of nature; and a careful observation, analysis, and classification of them, together with an induction from them, must

precede any useful deduction. The discovery of this great principle led to a disregard of the proper sphere and use of formal logic, and brought the whole subject into neglect and contempt; and the inductive was generally proclaimed of vastly more use than the scholastic method. Induction, however, had not wholly escaped the attention of Aristotle, who defined it as "the method from which we pass from particular instances to general truths." The natural sciences all begin with induction. The philosophy of the method has not, however, been explained to universal satisfaction. The *Novum Organum* of Bacon was designed to show its necessity and practical application, rather than the philosophic grounds on which its validity rests. During the general neglect of logic, one of the most important works produced in its interest was *La logique, ou l'art de penser* (1662), usually called the Port-Royal logic, by several authors, among whom Arnauld, Nicole, and Sacy were most prominent. It was really in the interest of the scholastic method, though intended otherwise, and though the scholastic rules and formulas were illustrated by new and well chosen examples, which constitute the great merit of the work. It was widely read, and gave a new impulse to the study. At the beginning of the next century Wolf published his great treatise on logic, in which he attempted to incorporate the peculiarities of the Leibnitzian philosophy, and which gave the direction to speculations on this subject in Germany, leading the German writers to regard the fundamental laws of thought which underlie and give validity to logical formulas, rather than their practical value or application. In 1816 Hegel completed the publication of his "Logic," in which the term is used with a breadth of meaning peculiar to his philosophical system. The Hegelian logic is the law of absolute being, the scientific exposition of the pure conceptions of reason, of the absolute idea; its domain is the absolute truth as it is in itself, apart from its manifestations; it represents God as he is in his eternal being, before the creation of the world or of a finite mind; it is the analysis of the successive grades of history in their abstract form. It thus constitutes the first and highest part of the Hegelian scheme of absolute idealism. Archbishop Whately published his "Elements of Logic" in 1825, when this branch of study was at its lowest ebb in the English universities. This work has had probably a wider circulation and more extensive use than any other ever written on the subject, and had the effect of recalling public attention to its importance. He maintained that induction as well as deduction should be regarded as a branch of logic, and consequently attempted to explain the philosophy of induction and to show its accordance with the deductive formulas; and while the writers of the German schools treated logic as chiefly or exclusively concerned with thought, Whately regarded it as chiefly concerned with words. His work gave rise to many other

efforts in the same department, prominent among which was the "System of Logic, Ratiocination, and Induction," by J. Stuart Mill (1843), in which the author treats the grounds and fundamental principles rather than the formulas of reasoning. Being an eminent thinker of the sensational school, he does not make logic an *a priori* science, but aims to systematize the inductive method and reduce it to strict rules. The work abounds in valuable practical hints and reflections, and the concluding portion aims to solve the question whether from moral and social phenomena the instrument of logic may not derive a body of truths irrevocably acquired and universally assented to, like many of the laws of the physical world. In 1847 Prof. De Morgan published his treatise on "Formal Logic," an attempt to construct the science on a new basis. A mathematician of high repute, his work is difficult of comprehension to all except scholars in his own department. The peculiarity of its fundamental principle is that it ignores the distinction between a unit and an individual. Units, however, are not, and individuals are distinguishable from one another. Six men, for example, are not distinguished as mere units from any other 6 objects of thought; but it is obvious that we may predicate of 6 men what would not be true of 6 individuals in any other species; and logic does not deal with its objects as mere units, but as individuals making up species and genera. If the subject in any affirmative proposition denote an individual, the predicate will denote the species in which it is comprehended; and if the subject denote a species, the predicate will denote the comprehending genus; but the argument neither establishes nor affirms any numerical relation between them. Sir William Hamilton dissented from the views of Whately and his followers, who considered logic as chiefly concerned with language and as including the department of dialectics. He maintained that it is exclusively occupied with the forms of reasoning, that it takes no notice of the subject matter, and has no connection with psychological processes. The peculiarity of his system results from what he calls the quantification of the predicate, a fact which in his view had hitherto been overlooked. Beside the 4 kinds of propositions designated by A, E, I, and O, he distinguishes 4 others. It had previously been held that affirmative propositions as such and of necessity distributed the subject, and negative propositions the predicate. Thus in the universal affirmative: "All men are animals," the subject only is taken into the scope of the proposition as a logical whole. We here speak of "all men" as a class, but not of "all animals," and we say or imply nothing concerning the latter except that some of them are men. The universal negative distributes both terms, and in like manner it has been held that the particular affirmative takes neither of its terms as a whole, and that the particular negative distributes the predicate only.

But Sir William Hamilton holds that we may have affirmative propositions with or without the subject distributed, and negatives with or without the predicate distributed; and he proposes to designate the 8 propositions which result as A, U, I, Y, ϵ , η , α , ω . The scheme, presenting the quantity of the predicate, is as follows:

- U. Toto-total: All S is all P.
- A. Toto-partial: All S is some P.
- Y. Parti-total: Some S is all P.
- I. Parti-partial: Some S is some P.
- α . Toto-total: All S is not all P.
- η . Toto-partial: All S is not some P.
- ϵ . Parti-total: Some S is not all P.
- ω . Parti-partial: Some S is not some P.

This view, if it be accepted, revolutionizes the theory of the syllogism, and the whole system of logic as commenced by Aristotle and elaborated by his followers down to the time of Hamilton. De Morgan claimed that this theory of quantification was substantially the same as his own. An elementary treatise on logic by Dr. Wilson, professor in Geneva college, N. Y., was published in 1856. He differs from Hamilton by holding that in order even to construct logical formulas it is necessary to take some note of the quality of the conceptions, and that we can only do this by referring to the processes of the mind, and to the objects of these processes, which are the subject matter of reasoning. Any other view leads to the theory of De Morgan, who regards all objects as mere units without individuality. He attained by analysis to 5 distinct principles of reasoning: 1, by the subsumption of species under genera, and individuals under species; 2, by the comparison of continuous quantity, which includes comparison of time and place; 3, by calculation, dealing with units alone; 4, by condition or hypothesis; and 5, by disjunction. Other important works produced in this country on the subject are: the "Elements of Logic," by Prof. Levi Hedge (1816), founded on the Scotch philosophy, and therefore omitting all metaphysical discussions of formulas and *a priori* conditions of thought; the "Elements of Logic," by Prof. Henry P. Tappan (1844), founded on the philosophy of Kant, and occupied rather with the conditions and laws of thought than with the application of logical formulas; and the "Science of Logic," by Prof. A. Mahan (1857).—See Blakey's "Historical Sketch of Logic from the Earliest Times to the Present Day" (London and New York, 1851).

LOGWOOD, a dye wood obtained from the logwood tree (*hamatoxylon Campechianum*) of Central America. The tree belongs to the sub-order *caesalpinoæ* of the natural order *leguminosæ*. It grows in very favorable situations 40 or 50 feet high, but more commonly not more than 25 feet. Its trunk is generally less than 20 inches in diameter, and is crooked and covered with a rough bark. The branches are also crooked and furnished with thorns. The flowers in axillary spikes at the end of the branches have a purplish calyx and light yellow petals. The outer sap wood is yellow, but the inner

portion, which alone is exported, is deep red. It is a close-grained wood, very hard, and so heavy that it sinks in water. Its decoction assumes various colors, according to the time it has been prepared and the substances with which it is treated. It is first deep red, but becomes paler by absorbing oxygen, and at the same time it acquires the property of precipitating gelatine. Acids brighten the color, while they also make it paler; alkalies render it of a purplish or violet hue, and the salts of iron dark violet blue. The wood is principally useful for furnishing red and blue, but more particularly black dyes. By the use of iron and alum bases they are obtained of various degrees of intensity, and with proper mordants are rendered permanent. The coloring principle of logwood was separated about the year 1811 by Chevreul, and this is now known by the name of hæmatoxyline. He obtained it from the watery extract in transparent brownish yellow crystals, the composition of which when anhydrous is represented by the formula $O_{11}H_{17}O_{11}$. Erdmann also procured 4 oz. of the crystals from 2 lbs. of the pulverized extract by digesting it in 2 lbs. of ether, with a portion of sand intermixed to prevent agglutination, and afterward expelling the ether by evaporation. Hæmatoxyline resembles liquorice root in taste, is soluble in boiling water, and with alcohol and ether produces reddish yellow solutions. Beside this substance, the wood contains a great variety of salts of lime, alumina, iron, and manganese, together with a fatty or resinous substance, a volatile oil, tannin, acetic acid, &c. Logwood is used in medicine as well as in dyeing, being a mild astringent without irritating properties. It is given in extract or decoction in cases of chronic diarrhoea, chronic dysentery, and in the relaxed state of the bowels succeeding cholera infantum.—To prepare the wood for use, the imported logs were formerly cut by machinery into chips by means of steel cutters upon a horizontal drum, against which they were moved endwise; but the practice is now to grind the wood to powder, in which state the infusion is more readily obtained than from the chips.—Logwood was taken to Europe for a dyeing material soon after the discovery of America. Its introduction into England was violently opposed in the time of Queen Elizabeth, and an act was passed prohibiting its use. This was repealed in 1661, when the demand for logwood rapidly increased. It was obtained only in the Spanish possessions; and in order to procure it the New Englanders made settlements in Yucatan, and sent thence large quantities to the north and to Jamaica. The opposition of the Spaniards led at last to a special treaty between England and Spain, by which British subjects were permitted to cut and ship the wood in the bay of Campeachy; whence the name it has received of Campeachy wood. In 1715 the tree was introduced into Jamaica; by means of planting the seed and from being cultivated in plantations it spread all over the

island. Thus Jamaica also has furnished large quantities to commerce.

LOIR (anc. *Lidéricus*), a river of France, which rises in the department of Eure-et-Loir, in a range of hills dividing its basin from that of the Seine, and joins the Sarthe a little above the junction of the latter with the Mayenne. Its length is 150 m., and it is navigable for 80 m. Its principal tributaries are the Ozane, Bray, Ooie, Long, and Meaulne.

LOIR-ET-OHER, a central department of France, in the old province of Orléanais, bounded by Eure-et-Loir, Loir-et-Oher, Indre, Indre-et-Loire, and Sarthe; area, 2,889 sq. m.; pop. in 1856, 264,043. The surface presents a number of elevated and extensive plains, and is nearly equally divided by the Loire, the district N. of which is traversed by the Loir and its affluents the Ozane and the Bray, and that S. by the Oher, Sauldre, Beuvron, and Cosson. There are numerous ponds along the left bank of the Loire, and the S. E. of the department presents a vast marshy plain which contains many hundreds of ponds. The soil is of various qualities: in the N. E. it is a dark rich loam, in the S. E. clay and sand, along the Oher calcareous, and the N. W. part is arid and covered with heath. The chalk formation occupies a large portion of the department. The chief crops are grain, wine, fruits, vegetables, beet root, and hemp. Vendôme is noted for its draught horses, and the Sologne district for its sheep. The cattle are of an inferior breed. Poultry and game are plentiful. The principal minerals are iron, marl, potters' clay, and building stone. The climate is in general mild and salubrious. The manufactures consist of coarse woollens, cotton cloth, hosiery, gloves, sugar, leather, glass, and earthenware. Capital, Blois.

LOIRE, an E. department of France, in the old province of Lyonnais, bounded N. by Saône-et-Loire, E. by Rhone and the river of the same name, S. by Ardèche and Haute-Loire, W. by Puy-de-Dôme, and N. W. by Allier; area, 1,805 sq. m.; pop. in 1856, 505,260. It belongs almost entirely to the basin of the Loire. The surface consists chiefly of extensive plains broken by the mountains of the Cévennes and Forez, and by several isolated volcanic hills of black basalt. The chief rivers are the Loire, Rhone, Ondène, Furens, Coize, Lignon, and Sornim. The heights separating the valleys of the Loire and the Allier are chiefly composed of granite rocks or of the older limestones and sandstones. Part of the higher ground between the Loire and the Rhone is occupied by coal measures, and the valley of the Loire by strata of the supra-cretaceous group. This department indeed contains one of the richest coal fields of France. Lead, iron, building stone, granite, and potters' clay are the other most important minerals. The soil is not of superior quality, but produces hemp, fruit, wine, oil seeds, grain, and excellent pasturage, on which feed great numbers of cattle and sheep. In the valley of the Rhone mulberry trees are exten-

sively grown for the production of silk. Pine, fir, oak, and beech grow on the mountains, and large quantities of pine are converted into charcoal. Chestnuts form a staple in the common diet of the people, and are also largely exported to Paris. The manufactures are important, and include firearms, cutlery, ironware, machinery, cotton, woollen, silk, and linen goods, glass, bricks, canvas, earthenware, lime, &c. The chief manufacturing town is St. Étienne. Capital, Montbrison.

LOIRE (anc. *Liger*), a river of France, running in a W. N. W. direction across the S. W. and central parts of the country, and dividing it into two nearly equal parts. It rises on the slope of the Cévennes, and passing by the towns of Orleans, Blois, Amboise, Tours, Saumur, and Nantes, flows into the bay of Biscay 86 m. below Nantes. Its principal affluents are the Arroux, Bèbre, Allier, Oher, Vienne, Mayenne, Indre, and Sèvre-Nantaise. Below Nantes, where it first feels the influence of the tide, it is studded with small islands. Its length is about 600 m.; it is navigable from its mouth to Roanne, a distance of 450 m.; and between this point and Noirie, 45 m. higher, it is navigable downward only. In the lower part of its course it is obstructed by shifting sands, but these impediments are obviated by a canal. The river is also subject to floods, to guard against which extensive works have been constructed. In its upper course the river is a romantic mountain torrent; as it descends, its valley widens and embraces extensive plains, so richly covered with orchards, vineyards, and corn fields, that they have justly received the name of the "garden of France." The basin of the Loire is estimated at one fourth part of the whole of France.

LOIRE, HAUTE. See HAUTE-LOIRE.

LOIRE-INFÉRIEURE (Lower Loire), a W. maritime department of France, in the old province of Brittany, bounded N. by Morbihan and Ille-et-Vilaine, E. by Mayenne and Maine-et-Loire, S. by Vendée, and W. by the bay of Biscay; area, 2,595 sq. m.; pop. in 1856, 555,996. The coast line is about 55 m. long, and broken by the bays of Pennebè, Pembron, Croisic, and Bourgneuf. The interior is level, with the exception of a line of low hills in the N. The department is watered by the Loire and its tributaries the Sèvre-Nantaise, Acheneau, and Erdre. The Vilaine touches the department on the N. W., and there are several less considerable streams. Grand-Lieu, the largest lake in France, is situated near the left bank of the Loire, with which it communicates by the Acheneau. The chief minerals are coal, iron, lead, tin, slate, granite, quartz, mica, kaolin, and feldspar. The soil is generally fertile. The chief crops are wheat, rye, buckwheat, mixed grain, and barley. The pastures are excellent, and cattle of good breed and horses are numerous. The district S. E. of Lake Grand-Lieu is somewhat hilly and well wooded. The vineyards supply annually about 82,000,000 gallons of wine. The principal manufactures are linen,

cotton, and woollen goods, which are produced chiefly at Nantes, Clisson, Châteaubriant, and Guérande; ship building is extensively carried on at Nantes, Paimboeuf, and Pellerin. On the coast there are large fisheries. The commerce of the department is very important, and the principal articles of trade are wine, brandy, fruits, salt, oil, hardware, provisions, soap, and wool. Capital, Nantes.

LOIRET, a central department of France, in the old province of Orléanais, bounded N. by Seine-et-Oise and Seine-et-Marne, E. by Yonne, S. by Nièvre, Cher, and Loir-et-Cher, and W. by Loir-et-Cher and Eure-et-Loir; area, 2,551 sq. m.; pop. in 1856, 845,115. The surface is level or gently undulating, and is traversed by the Loire, Loiret, Loing, Ouanne, and a number of smaller streams. Water communication is much extended by the canals of Briare, Orleans, and Loing. There are several extensive forests, including those of Orleans, Montargis, and Gien, the first having an extent of 50-m. by 15, but including many open tracts with villages and hamlets. The soil is generally fertile, especially to the N. of the Loire. The chief products are grain, wood, wine, and saffron. Bees are largely reared, and sheep and cattle are numerous. There are mineral springs at Ferrières, Segrais, St. Gondon, Noyers, Beaugency, and other places. Capital, Orleans.

LOJA, or LOXA, a town of Spain, in the province of Granada, near the left bank of the Genil, here crossed by a bridge, 81 m. W. from Granada, 22 m. E. from Antequera, and 41 m. N. from the port of Malaga; pop. 15,968. It is beautifully situated on the slope of a hill, has 21 woollen factories, 8 paper mills, 3 churches, 8 suppressed monasteries, a nunnery, a town house, and 2 hospitals. On the summit of the hill above the town are the ruins of an ancient Moorish castle, which was taken by Ferdinand III. in 1226. From coins and other antiquities found in it, Loja appears to have been an important Roman station.

LOKMAN, an Arabian philosopher and fabulist, represented in the Koran as a contemporary of David and Solomon, with whom he is said to have frequently conversed. He was prince or sheik of the primitive tribe of Ad, and when that tribe perished by the *Seil-ol-Arim*, he alone was preserved because of his piety and wisdom. He was as remarkable for his personal deformity and ugliness as for his wit and sagacity. Fables attributed to Lokman are still extant. A Latin-Arabic version of them appeared at Leyden in 1615, and they have since been translated into Dutch, French, and German. The best editions are those of Causin (Paris, 1818), Freytag (Bonn, 1823), and Rödiger (Halle, 1830). Among the more recent is that of Derenburg (Berlin, 1850). The talents and deformities of Lokman bear such a resemblance to those of *Æsop*, that they are supposed to have been the same person.

LOLA MONTEZ (MARIA DOLORES PORRIS Y MONTEZ), countess of Landsfeld, a woman cele-

brated for her remarkable adventures, born in Limerick, Ireland, in 1824. Her mother, a creole of great beauty, was married in succession to a Spanish and an Irish officer, from which several contradictory reports have arisen as to her parentage and place of birth. She was brought up in her infancy in England, at first in her mother's house and later at a school in Bath. While very young she married an officer named James, who took her to India, but treated her cruelly, for which reason she left him and returned to England, where her singular talents and remarkable disposition made her well known. In 1840 she appeared as a dancer at the Porte St. Martin, in Paris. Her wit and accomplishments drew around her a circle of the literary men and artists of the French capital, with one of whom, Dujarrier, an editor of the *Presse*, her relations were intimate. His death in a duel was the cause of Lola's appearance as witness in the celebrated trial which ensued. Shortly after she found her way through a series of extraordinary adventures to Munich, where she appeared as a *danseuse* and fascinated the king Louis. Here her restless and daring mind found itself in a position to influence political events, and she exerted her abilities with such zeal as to become the cause of a revolution. The king wished to give her the title of countess of Landsfeld, but his ministry, led by Karl von Abel, refused to sanction the honor. The ministry was dissolved (1846), and Lola Montez received the title. At this time she lived in state, having a large pension and a splendidly furnished house, due to the liberality of the king, while her portrait was placed in the gallery of court beauties. A second ministry, that of Wallerstein, which she herself had formed or at least approved, became hostile to her, and this was in turn dissolved by her influence. The deposed ministers stirred up the people against her, and the imprudent acts into which she was easily provoked were repeated with every exaggeration. Having made friends with a corps of students of the more aristocratic class, these young men were assailed by the mob and by other students, and the king and Lola, who were present, were only saved from personal violence by a charge of cuirassiers. The next day a royal decree closed the university. The result was a terrible tumult in Feb. 1848, which compelled her to fly from Munich. After the abdication of the king in the following month, in consequence of the general movement in Europe, she went to England, where her reputation again drew around her numbers of wealthy and influential friends. A young English officer named Heald offered her his hand and was accepted; the result was a prosecution for bigamy, James, her first husband, being yet alive. Mr. and Mrs. Heald fled to Spain. The death of James in 1850, followed by that of Heald, soon freed her from both husbands. In 1852 she came to the United States, where she appeared with great success in autobiographical dramas, setting forth her various adventures.

From New Orleans she went to California, where it is said she was married to and divorced from a third husband named Hull. In 1855 she went to Australia, where she played at Melbourne with great success for the benefit of the wounded at Sebastopol. Returning to the United States, she delivered lectures on a variety of topics. She afterward visited and lectured in England, but returned in the autumn of 1859 to New York. The minor adventures of her wild career in the principal cities of Europe are probably without parallel. Her accomplishments as a linguist are remarkable. She has published a volume of her lectures, with an autobiography, "Arts of Beauty, or Secrets of a Lady's Toilet," and "Anecdotes of Love."

LOLLARDS, a name given to several religious associations in the middle ages. Its etymology was formerly explained in different ways, but more recently its derivation from the verb to lull (German *lullen*) has been generally adopted. It signified persons speaking at religious services with a low, suppressed voice. The name first appears in the Netherlands about 1800, and was sometimes given to a religious congregation of men who devoted themselves to nursing the sick and burying the dead, and who called themselves Alexians; sometimes to the societies of the Beguins. The name always implied at least a suspicion of heresy. In England it was applied to the adherents of Wycliffe as early as 1382, and in 1387 and 1389 it was used in episcopal documents. It remained a common appellation of the adherents of Wycliffe until the beginning of the reformation of the 16th century. They maintained all the principal doctrines of Wycliffe, especially that of the Scriptures being the only rule of faith. At the time of Wycliffe's death their number in England seems to have been very great. A chronicler of that time remarks, that it was difficult to meet two people in the street without one being a Wycliffite. John Hereford, doctor of theology in Oxford, John Ayshton, magister in Oxford, and John Purney, a friend of Wycliffe, were their leading men. In 1394 they petitioned the parliament for a reformation of the church. In 1400 an act of parliament *de comburendo heretico* made death the penalty of heresy, and a great many suffered this punishment; among them, in 1417, Sir John Oldcastle, Baron Cobham. The last executions took place in 1430 and 1431. After that time they ceased to be numerous, and were found almost exclusively among the lower classes. But toward the middle of the 15th century a bishop of Chichester, Reginald Pecock, still mentions them in his principal work, "The Repressor," as "erring persoones of the lay peple whiche ben clepid lollards." He calls them in another part of his work "Biblemen," and mentions expressly that they possessed the New Testament in the native language, that they learned it by heart, and that they preferred the reading of the Bible to the instruction given by priests and scholars. In 1494 several Lollards, men and women, were

prosecuted in the western district of Scotland; and in 1506, 80 persons of Amersham, a principal seat of the Lollards, were punished for heresy. After the introduction of the reformation in the 16th century, the Lollards gradually united with the reformed churches.

LOLLI, or LOLLY, ANTONIO, an Italian violinist, born in Bergamo in 1728, died in Sicily in 1802. Little is known of his youth; but from 1762 to 1778 he occupied the position of concert master to the duke of Wurtemberg, residing chiefly at Stuttgart. Upon his arrival in that city he found that a resident artist, Nardini, was his superior on the violin. Having obtained from the duke leave of absence to travel, Lolli retired to a secluded village, and applied himself so assiduously to the mastery of his instrument that on his return to Stuttgart he utterly eclipsed his rival, who returned in despair to Italy. Between 1775 and 1778 Lolli was attached to the court of the empress Catharine II. of Russia, who loaded him with honors. Subsequently he performed in London, Paris, and other large continental cities. He was most celebrated for playing quick movements, and attained a wonderful rapidity and facility of execution. His compositions are of little value.

LOMAX, JOHN TAYLOR, LL.D., an American jurist, born at Port Tobago, Caroline co., Va., in Jan. 1781. He was graduated at St. John's college, Annapolis, in 1797, in 1799 began the study of law, and in 1802 commenced practice at Port Royal on the Rappahannock. On the death of his brother in 1805 he removed to Fredericksburg, where he remained until 1809. He spent the following 9 years at Menokin in Richmond co., Va., and in 1818 resumed his place at the Fredericksburg bar, where he practised very successfully until his appointment in 1826 as professor of the school of law in the university of Virginia. He was also for some time chairman of the faculty. He resigned this position in 1830 in order to accept a seat on the bench of the general court of Virginia, to which he was unanimously elected by the legislature under the constitution of 1776. Soon after entering upon this office a new constitution was framed, and he was reelected. Under the constitution of 1851 he was retained on the bench for a term of 8 years by vote of the people of the circuit. The convention which framed this constitution had adopted a clause which disqualified any person over 70 years of age from holding the office of judge; but at the request of a number of members of the bar, this provision was cancelled in order not to exclude Judge Lomax. He continued to preside on the bench until 1857, when he retired to private life. He is the author of a "Digest of the Law of Real Property" (1839), and "Law of Executors and Administrators" (1841).

LOMBARD, PETER, or PETRUS LOMBARDEUS, surnamed "Master of Sentences," an Italian theologian, born near Novara about the beginning of the 12th century, died in Paris in 1164. He removed in his youth to France, and St. Ber-

nard placed him at the seminary of Rheims. He afterward entered the university of Paris, where he became a pupil of Abelard, and was so distinguished by his attainments that he was appointed tutor to Philip, son of Louis the Fat, made professor of theology in the university, and in 1159 bishop of Paris. The most remarkable of his works is his *Sententiarum Libri IV.*, a collection of passages from the fathers bearing on controverted points in theology. It acquired a great reputation, being employed in the schools as a manual, and made the text of innumerable commentaries. It was from this work that he derived his surname. It is still in repute, and was reprinted in Paris (2 vols. 8vo.) in 1841.

LOMBARDY, a state of northern Italy, lying between lat 44° 54' and 46° 37' N., and long. 8° 32' and 10° 42' E., and bounded N. by the Alps, which separate it from Switzerland, E. by Venetia, S. by Parma and Modena, and W. by Piedmont; area, 6,270 sq. m.; pop. in 1856, 3,009,505, or 480 to the square mile, a much denser average than that of any other country in Europe. It is divided into the delegations or provinces of Bergamo, Brescia, Como, Cremona, Crema-e-Lodi, Mantua, Milan, Pavia, and Sondrio. These are subdivided into 102 districts and 2,109 communes. The chief cities are Milan, Brescia, Cremona, Mantua, Pavia, Lodi, and Como. The greater part of the country is a plain sloping southward from the Alps toward the river Po, and which, being profusely watered and highly cultivated under a genial climate, is one of the richest and most productive districts in the world. Sondrio and the greater part of the delegations of Como and Bergamo are mountainous, lying on the southern slope of the Alps. The highest summits within the limits of Lombardy are the Splügen, 8,130 feet high; the Legnone, 8,120 feet; the Godena, 7,549 feet; and the Tre-mezzo, 5,106 feet. Immediately S. of this mountain region is a sub-alpine or hilly region, beyond which spreads the great plain. The principal rivers are the Po and its tributaries, the Ticino, the Olona, the Adda, the Oglio, and the Mincio. The lakes are large and important, and renowned for their picturesque beauty. The most remarkable are the Lago Maggiore, which is partly in Switzerland and is 50 m. long, with a breadth varying from 5 to 8 m.; Lake Lugano, which is also partly in Switzerland, and is 24 m. in length by 6 m. in greatest breadth; the lake of Como, 33 m. long, with a breadth of 8 m.; the lake of Iseo, 18 m. long and 5 broad; and the lake of Garda, the largest and one of the most beautiful of Italian lakes, which is 33 m. long and 11 m. in its greatest breadth, and separates Lombardy from Venetia on the E. The climate is healthy except in the marshy districts, and mild except among the mountains of the north. The winter lasts about two months, and on the plains snow scarcely ever remains on the ground. In the mountain region are forests of fir, oak, larch, birch, and chestnut. The southern de-

clivities of the mountains produce the vine, the mulberry, and a variety of fruit trees common to the temperate zone. The sub-alpine region and the great plain produce silk, wine, maize, millet, chestnuts, fruits, and vegetables. The mineral products of Lombardy are confined to a small quantity of iron from some of the alpine valleys.—The Lombards have a high reputation for intelligence and nobleness of character. M. Galiffe, a Swiss traveller, in his "Italy and its Inhabitants," says: "There is no nation so like the English as the Lombards. Their features have that general uniformity of style which characterizes a peculiar race of men. The nose is straight; the under lip retired, or smaller than the upper one; the complexion fair; the eyes and eyebrows strongly marked and expressive; the forehead high and noble, and divided exactly in the middle by a vein which becomes distended and visible on every strong emotion; the hair of a light brown; the general expression of the countenance gentle, mild, and open. I have travelled a great deal, and have not merely visited but have resided in many countries; but nowhere have I met with a more amiable people than the Milanese. They have all that vivacity of imagination, all that liveliness in their exterior appearance, which one expects to find in Italians, without the least mixture of that low cunning with which the Italian nation is so universally reproached. The character of the Milanese is frank and open; they are more cordial than complaisant, and their civility is blunt and hearty, yet graceful." Of the people of Brescia the same traveller remarks: "It is impossible to imagine a more beautiful race than the population of that city and its neighborhood. Raphael's most sublime conceptions of ideal beauty fall short of the living specimens which engaged our admiration in Brescia and on the road to Verona. I am persuaded that I saw a greater number of handsome women in that space than I had seen in all Europe beside; and many of them were more exquisitely beautiful than any individuals I had ever met with. What peculiarly characterizes their style of beauty is the commanding nobleness of their countenances, mingled with a degree of mildness and candor."—More than two thirds of the population of Lombardy are employed in agriculture. The country is better cultivated than any other in Europe. Irrigation, for which the streams flowing from the Alps afford ample facilities, is universally and skilfully employed. The water of the rivers is so distributed by canals that there are few farms without a copious supply. The purchase and sale of water for irrigation forms a business of much importance, and is conducted with great strictness, the volume of water being accurately measured and paid for at a high rate. Great attention is bestowed upon meadows, and upon the maintenance of live stock in the best possible condition. The chief labor of ploughing is performed by oxen, of which,

by the census of 1854, there were in the country 137,219, and of cows, bulls, and young cattle 311,831. At the same period the number of sheep and goats was 186,390, and of pigs 106,839. The live stock is fed entirely in stalls on grass, which can be cut from the meadows all the year round. Pigs are fattened on Indian corn. Horses, mules, and asses are employed for draught. Of horses in 1854 there were 68,738, of mules 12,054, and of asses 15,557. The dairies of Lombardy are extensive, and are managed with great care and with the most scrupulous cleanliness. They produce immense quantities of excellent cheese, known throughout Europe as Parmesan; the amount annually produced is computed at 52,000,000 lbs., worth in the country itself about \$7,000,000. The farms in Lombardy are generally small, most of them varying in size from 7 to 25 acres. The most numerous class of cultivators, called *coloni* or colonists, occupy cottages with less than 3 acres of land. Silk is the chief commodity furnished to commerce by the agriculture of Lombardy, and the value of the annual product is estimated at \$15,000,000. Rice was introduced from the East as early as the 10th century; its cultivation is restricted by the government on account of its insalubrity, but the annual product is about 5,000,000 lbs. Maize is the grain most extensively cultivated, more than one third of the arable land of Lombardy being devoted to its production. The average product per acre is said to be 25 bushels, and on the richest lands from 50 to 78 bushels. Wheat is chiefly raised in the alpine region; in 1854 the product was about 300,000 bushels. The grape vines of Lombardy are trained upon trees, and extend in elegant festoons from one tree to another. The wine is generally of poor quality; its annual product previous to 1851 averaged about 33,000,000 gallons, but since that year it has much decreased, the vines having been attacked by disease. Potatoes are little cultivated, and their production is almost exclusively confined to the alpine region; they are disliked by the people, and all attempts to extend their cultivation have failed. The chief branch of manufacture is that of silk, but cotton, woollen, and flax manufactures are on the increase. Milan has been long famous for its fabrication of arms, and there are extensive iron works in various parts of the country. The principal smaller manufactures are those of paper, glass, gold and silver articles.—The religion of Lombardy is the Roman Catholic. Milan is the seat of an archbishop, who has jurisdiction over 8 episcopal sees. The number of Jews is about 3,000, and of native Protestants about 600. Education is very generally diffused. In 1854 the number of schools of all kinds, public and private, was 5,488, attended by 275,000 pupils. For the higher branches of education there are lyceums at Bergamo, Brescia, Como, Cremona, and Mantua, a university at Pavia, and medical and surgical colleges at Milan. There

are beside seminaries attached to every episcopal see. In 1855 there were 12 newspapers and 47 scientific and literary journals. In 1853, 1,444 works were issued from the press.—Lombardy was anciently a part of *Gallia Cisalpina*, or Cisalpine Gaul. It owes its present name to the Lombards, Longobardi, or Langobardi, an ancient German people of Suevic race, whose name is derived in some of their national writings from their habit of wearing long beards, while some modern critics derive it from Germ. *lang*, long, and *Barte*, in Old German a battle club, or from *lang* and *Börde*, in Low German a bank of a river. The last refers to the banks of the Elbe, where they first appear in history in the time of the emperor Augustus. Having figured for some time in the history of Arminius and Marbodius, they soon after disappeared, and in the 5th century emerged in Hungary on the northern bank of the Danube, which they crossed in the following century after a successful war of extermination against their former masters, the Heruli. South of the Danube, in Pannonia, they carried on a protracted war against the Gepidæ; and after the final annihilation of their enemies, they crossed the Julian Alps under their victorious king Alboin, and in northern Italy founded, in 568, a powerful state, with feudal institutions. Their kingdom lasted for more than 200 years, their most remarkable monarchs being Autharis, who embraced Christianity; Rotharis, who promulgated a code of written laws in 643; Grimoald, who reformed the laws of the preceding; Luitprand, who conquered Ravenna in 728; Astolphus, who attempted the conquest of Rome; and Desiderius, with whom the kingdom ended, being conquered by Charlemagne in 774. Under the successors of the latter the Lombard cities, with Milan at their head, grew prosperous and powerful, and adopted republican institutions. After a long struggle with the emperors, these cities became independent by the treaty of Constance in 1183. The family of the Visconti soon afterward became powerful in Milan, of which city Giovanni Galeazzo Visconti became duke in 1395, with an extensive territory. His daughter Valentina married Louis, duke of Orleans, whence arose in the early part of the 16th century a claim on the part of France to the duchy, which was then in possession of the house of Sforza. The emperor Charles V. supported Francesco Sforza against the French, and in 1540, after Francesco's death, bestowed Milan as a vacant fief of the empire on his son Philip II.; and it continued to be a possession of the Spanish crown till 1706, when it was annexed by Austria. In 1796 the French conquered Lombardy, and it became successively a part of the Cisalpine republic, of the Italian republic (1801), and of the kingdom of Italy (1805). It was restored to Austria after the downfall of Napoleon in 1815, and was united with Venice to form the Lombardo-Venetian kingdom. (For its subsequent history, see ITALY, and SARDINIA.) By

the peace of Villafranca, July 11, 1859, the whole of Lombardy, with the exception of the fortresses of Mantua and Peschiera, was added to Sardinia.

LOMENIE, **LOUIS LÉONARD DE**, a French writer, born in St. Yrieix, Haute-Vienne, in 1818. He has published a series of political and literary biographies known as the *Galerie des contemporains illustres*, with portraits (10 vols. 18mo., Paris, 1840-'47). In 1845 he was selected as the substitute of M. Ampère in the chair of French literature at the college of France, and in 1849 became tutor in the same department in the polytechnic school. He has also published in various periodicals another biographical series not yet completed, entitled *Les hommes de 89*. His most valuable work, which originally appeared serially in the *Revue des deux mondes*, is *Beaumarchais et son temps, études sur la société Française* (2 vols. 8vo., 1855; 2d ed., 1858). This was translated into English in 1857 (4 vols.), and abridged in New York. He is preparing a work on the Mirabeau family.

LOMENIE DE BRIENNE. See **BRIENNE**.

LOMOND, **LOCH**, the largest lake in Scotland, about 20 m. from Glasgow, lying between the counties of Dumbarton and Stirling. It is 24 m. long, and has its greatest width, from 6 to 8 m., at the S. end, from which it contracts until at the N. extremity it is sometimes less than 1 m. wide. Its depth also varies greatly, seldom exceeding 60 feet in the S. portion, while toward the N. it increases to nearly 400 feet. Its area is 45 sq. m.; its surface 22 feet above the level of the sea. It contains about 80 islands, receives the Endrick and a large number of rivulets, and discharges its surplus waters into the frith of Clyde by the river Leven. Loch Lomond is celebrated for its grand scenery, being surrounded by high and rugged mountains toward the N., the most conspicuous of which is Ben Lomond, and toward the S. by an elevated and diversified country dotted with villas. Steamers ply on the lake.

LOMONOSOFF, **MIKHAIL**, a Russian scholar, naturalist, and poet, born near Kholmogor, in the government of Archangel, in 1711, died in St. Petersburg, April 16, 1765. He was the son of a fisherman, who was a serf of the crown. With the aid of a priest he learned so much from a few books to which he had access, and among which was a poetical translation of the Psalms, that he conceived the plan of devoting himself to literature, especially poetry, and clandestinely repaired to Moscow. He soon found ample protection, and was enabled to complete his studies at that city, Kiev, St. Petersburg, Marburg, and Freiberg. After his return to St. Petersburg he was made an associate of the academy, professor of chemistry, and in 1760 rector of the university. Other marks of distinction were amply lavished on him. His works, which have passed through various editions, contain contributions to history, grammar, rhetoric, poetry, astronomy, chemistry, and other branches of science; but his fame

rests chiefly on his poetical writings, especially his odes, and on his grammar of the Russian language, of which he is regarded as the principal legislator. His biography has been written by Polevoi (2 vols., 1836).

LONDON, the capital of Middlesex co., Canada West, situated at the junction of the two branches of the Thames, and on the great western railway, 76 m. S. W. from Hamilton, and 114 m. from Toronto; pop. about 16,000. It is the westernmost city in Canada, was laid out in 1825, and has been twice nearly destroyed by fire; but its growth has been more rapid than that of any other place in the province. It is the centre of a rich agricultural district, and has an active trade in wheat and other produce. The city is well built, regularly laid out with wide streets, and is lighted with gas. It is connected by railway with Port Stanley and St. Mary's, and lines are projected to Sarnia and Port Frank on Lake Huron. It contains a number of fine public buildings and churches, among which the English church, a handsome Gothic structure, is noted.

LONDON, the metropolis of the British empire, situated on both sides of the river Thames, about 60 m. W. from the sea by the course of the river to the Nore light, or 40 m. in a straight line, in lat. 51° 30' 48" N., long. 0° 5' 48" W., measured from St. Paul's cathedral, comprising, according to the metropolis local management act of 1855, the cities and liberties of London and Westminster, the borough of Southwark, and various parishes, precincts, townships, and places. It includes, among others, the extreme points of Hampstead, Islington, Stoke-Newington, and Hackney to the N.; Stratford-le-Bow, Limehouse, Deptford, Greenwich, Woolwich, Charlton, and Plumstead to the E.; Camberwell and Streatham to the S.; and Kensington, Fulham, Hammersmith, and Putney to the W. Many of these districts were formerly distinct, but are now combined or combining into one almost continuous and constantly increasing line of houses, the vacant spaces between distant lines of road rapidly filling up. The whole metropolitan district comprises 186 parishes and an area of 122 sq. m., 51 m. of which are in the county of Middlesex, of which London is the capital, 36 m. in Surrey, and 85 m. in the county of Kent; the extreme length of the metropolis proper may be set down at 10 m., and its breadth at 6 m. The districts on the N. side of the Thames are as follows: 1, western districts: Kensington, Chelsea, St. George (Hanover square), Westminster, St. Martin's-in-the-Fields, and St. James's, Westminster; 2, northern districts: Marylebone, Hampstead, Pancras, Islington, and Hackney; 3, central districts: St. Giles's, Strand, Holborn, Clerkenwell, St. Luke, East London, West London, and City of London; 4, eastern districts: Shoreditch, Bethnal Green, Whitechapel, St. George-in-the-East, Stepney, and Poplar. The districts on the S. side of the Thames are: St. Saviour (Southwark), St. Olave (Southwark),

Bermondsey, St. George (Southwark), Newington, Lambeth, Wandsworth, Camberwell, Rotherhithe, Greenwich, Lewisham, and Woolwich. These districts are contained within that portion of the valley of the Thames which may be considered to commence where the high land approaches the river at Brentford on the N. side, and at Richmond on the S. side. The range of hills which bound the valley on the N. side passes between Hanwell and Ealing, and then, turning eastward to Hampstead and Highgate, divides the valley of the Thames from that of the Brent. From Highgate the range continues in an easterly direction, separating the London basin from the tributaries of the river Lea, and is terminated abruptly at Stamford hill by the valley of the Lea. On the S. side the range of hills which bounds the main valley may be considered to pass from Richmond, by Wimbledon park, to Tooting; then southward, by Streatham, Norwood, the crystal palace at Sydenham, and Forest hill, to Deptford, and to be terminated by the high land which passes S. of Greenwich, and abuts on the river at Woolwich. But this main range of hills is intersected by three subsidiary valleys. First, on the E. side of Richmond park, it is intersected by the valley of the Baveley brook; secondly, between Wimbledon park and Tooting, by the valley of the river Wandle; and thirdly, the valley of the river Ravensbourne, at Deptford, separates the main range from the high land which lies at the back of Greenwich and Woolwich. The metropolitan district terminates in the marshes a little below Woolwich. The following table from the report of the metropolitan board of works, presented to the house of commons in 1857, in regard to the amount of sewerage for which provision should be made, contains a full statement of the prospective population in 1861, compared with that of 1851:

Districts.	Pop. in 1851.	Prospective pop. in 1861.
<i>Metropolitan Districts.</i>		
N. side of the Thames.....	1,745,601	3,573,089
S. " " "	616,635—2,362,236	
<i>Prospective and Sub- sidiary Districts.</i>		
N. side—Chiswick, Brent- ford, Hanwell, &c.	22,844	401,000
S. side—Richmond, &c.	15,368	
Valley of the Baveley brook and Wandle.....	13,477	
Valley of the Ravensbourne	81,458	
Wimbledon, &c.	3,698	
Valley of the Lea.....	59,423	
East Ham and Barking	6,480	
Willesden, &c.	2,996—154,076	
Total.....	2,516,812	3,979,089

—The parliamentary division of the metropolis consists of the city of London (pop. 127,869), the city of Westminster (241,611), and the 5 boroughs of Tower Hamlets (589,111), Finsbury (323,772), Marylebone (370,957), Lambeth (251,845), and Southwark (172,868). The city of London proper has for its base the N. bank of the Thames, with its W. line extending to Middle Temple lane, where, crossing Fleet

street at Temple Bar and Holborn at Southampton buildings, it afterward skirts Smithfield, Barbican, and Finsbury circus on the N.; traversing the end of Bishopsgate street Without, and pursuing its way southward down Petticoat lane across the end of Aldgate street and along the Minories, it finally reaches the Thames at the tower of London. Of its 108 parishes, 97 are "without" (the walls of the city) and 11 "within." The city of Westminster is bounded N., from its end at Tottenham court road to its suburban limit at Kensington gardens, by Oxford street; while on its extreme W. side, crossing the centre of the Serpentine in Hyde park, it reaches the river at Chelsea hospital. The metropolitan borough of Westminster, beside the city of Westminster, includes the district of the Savoy and the lordship of the duchy of Lancaster, which are situated between the Strand and the bank of the Thames. The borough of Tower Hamlets adjoins the city of London and the borough of Finsbury on the W.; and Finsbury adjoins Westminster and Marylebone on the W., and the W. part of the city of London on the S. The borough of Marylebone is chiefly in the Regent's park district in the West End, and the boroughs of Southwark and Lambeth are on the Surrey side of the river. The Thames runs through the centre of the city, and is spanned by 9 bridges, which we give in alphabetical order: Battersea, Blackfriars', Chelsea suspension, Hungerford suspension, London, Southwark, Vauxhall, Waterloo, Westminster. The new Westminster bridge is partly open for traffic and in course of completion. The Victoria railway bridge over the Thames will be open for traffic in 1860, and a new Charing Cross bridge upon the site of the present suspension bridge, for the purpose of extending the S. E. railway from London bridge to Charing Cross, was proposed in 1860.—The most northerly of the longitudinal streets parallel to the river enters the metropolis on the W. by the Baywater road, and passes through Oxford street, Holborn, and Newgate street, till it reaches Cheapside; it next passes through the Poultry, having the bank of England and the royal exchange on the one hand, and the mansion house on the other, along Cornhill to Leadenhall street, and is thence continued by Whitechapel and the Mile End road, which leads to Essex and the eastern counties. The other great longitudinal street begins on the W. at Hyde Park corner, passing Kensington gardens, part of Hyde park, and the Green park. On the E. end of Piccadilly the continuous line of street diverges to the right through the Haymarket, whence it proceeds to the E. along E. Pall Mall, through Trafalgar square, and past St. Martin's church, till it reaches the Strand. The Strand terminates at Temple Bar. The great line of street is thence continued through Fleet street and Ludgate hill, till it arrives at St. Paul's cathedral. At the N. E. end of St. Paul's churchyard it joins in Cheapside the great northern street line which comes

from the Bayswater road; but another branch of the former line runs nearer the river through Watling street, Eastcheap, and Tower street to Tower hill, whence it may be followed either in a straight line through Radcliffe highway, N. of the London docks, or close by the river along Wapping and Shadwell, where the lines unite in a single street leading to the West India docks. Another line of street which unites with that last described begins at Vauxhall bridge, and runs through Abingdon street until it has Westminster abbey on the left and the houses of parliament and Westminster hall on the right. Leaving these and Westminster bridge on the right, it joins Parliament street and Whitehall, which separates it from St. James's park on the left. Beyond Whitehall is Charing Cross, where the line, bending E. with the river, unites with the Strand. Among the streets running from N. to S., the principal and most westerly is the Edgeware road with its continuations, Park lane, Grosvenor place, and Vauxhall bridge road, which for the most part form the western boundaries of the metropolis. The second line of street proceeding eastward is the thoroughfare formed of Portland place, Regent street, and Waterloo place, extending between Regent's and St. James's parks; a little north of Piccadilly it curves through the Quadrant, and continues northward to Oxford street, where it expands into a circus, and then, resuming its former dimensions, proceeds to Langham place, where by a slight curve westward it continues into Portland place, Park crescent, and Park square, leading to Regent's park. The third great line is a continuation southward of the road from Hampstead, passing through Tottenham Court road to the E. end of Oxford street, from which point it proceeds through narrow streets down St. Martin's lane to Charing Cross. The chief N. line which connects the city with its northern suburbs is composed of Gray's Inn lane, which runs from Holborn hill to the New road; Aldersgate street and Goswell street, leading in a direct line from the post office to the Angel at Islington; and the street commencing at the Regent's canal on the N., successively called Kingsland road, Shoreditch, Norton Folgate, Bishopsgate street, and Gracechurch street, connecting Kingsland and Hoxton with London bridge and Southwark, the street line passing at the S. end of Gracechurch street over London bridge, and being thence prolonged across the borough as far as Kennington church. Another line connects Finsbury circus through Moorgate with London bridge, and New Cannon street, opened in 1854, connects St. Paul's churchyard with the same bridge. A vast cycle of road encircles the greater part of London on the N., which, commencing in the Uxbridge road, proceeds eastward as far as King's Cross, St. Pancras, where it ascends Pentonville hill, and, entering the City road, terminates in Finsbury square, within half a mile of the bank of England, and under the names of New road and the City road extends like a

boulevard almost completely round the N. and E. of the metropolis. On the Southwark and Lambeth or Surrey side 6 great roads converge from the different bridges to the Elephant and Castle tavern and posting house. From this point the roads, the principal of which is the Blackfriars' road, again diverge, the Kent road leading to Greenwich, the Kennington and Newington roads to Brixton and Tulse hill, and the road southward to the crystal palace at Sydenham. A new route from the West End to the railway termini at London bridge is in course of erection.—On entering London from the W. side, the wealth and civilization, the social and political significance of Great Britain, and particularly of its metropolis, are indicated by the splendor of the mansions of the nobility and of the opulent commoners, by the capacious pleasure grounds of Hyde park, Regent's park, St. James's park, Green park, and Kensington gardens, by the stately squares and elegant streets, the brilliant equipages, the superb horses, the fashionable throng, especially during the session of parliament in the summer months, the sumptuous club houses, the opera houses, the museums and galleries of art, the public libraries and institutions for the promotion of science and letters, the royal palaces, houses of parliament, government buildings, and courts of justice, and by the most diversified manifestations of the national glories and idiosyncrasies, from Westminster abbey, where many of the great in thought or deed are buried, to Tattersall's, where congregate the chiefs of England's great pastime of the turf. This part of London is called the West End. On entering the metropolis from the water side on the east, its world-wide commercial importance is made palpable by the imposing array of shipping of all nations in the port, and by the docks, wharves, manufactories, and warehouses which occupy the N. bank of the river as far as Blackwall; on crossing over to the Surrey side, by the aspect of the sailors' headquarters in Rotherhithe, by the large breweries and industrial establishments in Southwark and Lambeth, and by the tanneries of Bermondsey; on advancing into the heart of the city proper, by the colossal display of business transacted in the offices clustering round the bank of England and the royal exchange, round Lombard street, the seat of banking *par excellence*, and the stock exchange in Capel court, and round the coal exchange in Thames street, the corn market in Mark lane, and the colonial produce market in Mincing lane; and in the more remote parts of the east by the silk weavers' district of Spitalfields and the cabinet makers of Bethnal Green, the sugar baking houses of Goodman's Fields, the watchmakers of Clerkenwell, the whole eastern part of London teeming with every species of activity, from the highest spheres of commerce and finance in the office of the Rothschilds in New court and of the Barings in Bishopsgate street, down to the fish stalls in Billingsgate and the Jewish clothes dealers in Houndsditch. This part of London

contains the most hard-working and under-paid classes of the population; but even its most troublesome inhabitants, as in some of the districts along the Thames, are far more turbulent than vicious; while the West End, which includes the most distinguished portion of metropolitan society, is at the same time invaded by some of its most criminal members, and comprises as well as the city a large number of shopkeepers and others employed in the lower walks of life. The great majority of those in better circumstances, however, engaged in the city during the day, return to their homes in the West End or in the suburbs in the evening, some of the handsomest houses there being inhabited by city merchants, ship owners, bankers, stock and commercial brokers, and lawyers; while bookkeepers, clerks, and all those who occupy a subordinate position in the mercantile hierarchy of London, as well as wealthier classes who prefer to live economically or unostentatiously and quietly, are now so widely scattered in all parts of the metropolitan districts, and even in remote country places, that the former absolute distinctions between the eastern and the western part of London, as indications of low or high social standing, would seem to require some modification. Temple Bar, however, retains its ancient attribute as the boundary line between the city and the West End, although the higher commercial life of the city ceases almost at the bank of England, and the genuine reign of fashion hardly begins before Charing Cross.—The principal E. and W. lines of streets run from Mile End road to Hyde Park corner, through the heart of the city (the great landmarks of which are the bank of England, the royal exchange, and the mansion house), through Cheapside, Fleet street, the Strand, and Charing Cross; or on the N. of Cheapside along Newgate street, Holborn, and Oxford street. N. of these lines sweep the New road (the longest road of London, measuring 5,000 yards, and leading to Regent's park), St. John's Wood, and the Edgware road and the City road (1,700 yards), which runs from the Angel tavern at Islington to Finsbury square. City-bound people pass daily through these two roads or through the above line of streets, and swell the traffic to such an extent that Holborn, Ludgate hill, Fleet street, the Strand, and especially Cheapside, on account of its narrowness, are sometimes fairly blocked up by pedestrians, omnibuses, cabs, and other vehicles, particularly in the morning when the eastward movement begins, and in the afternoon when the tide rolls backward to the west. The steamboats disgorge an additional number of city-bound people. Another line of traffic passes over London bridge, a magnificent structure with 5 vast elliptical arches, which presents an aspect unequalled in any other part of London for interest and animation. Just below the bridge is the Pool, with its fleets of colliers moored in the stream; above it are the stairs of the penny steamboats with their thousands of West End or

Greenwich passengers. At the foot of the bridge is Fishmongers' hall. Passing up Fish street hill, one sees the most picturesque of all metropolitan monuments, erected in commemoration of the great fire; and at the entrance of King William and Cannon street is the statue of William IV. The bridge itself is constantly crowded with an ever-moving stream of people and vehicles bound to the city, and a counter stream hastening to the borough on the Surrey side. The streets of the city which reflect most steadily the activities diffused by so many different currents are Upper and Lower Thames street, with the custom house, Bishopsgate street Without and Within, Gracechurch street, Leadenhall street, Fenchurch street, Cornhill, and Cheapside. The by-streets of Cheapside are filled with Manchester wholesale houses, and the street itself as well as Cornhill displays a variety of jewellers', goldsmiths', watch-makers', saddlers', and other shops. In St. Paul's churchyard the shops present a world of show, and Ludgate hill and Fleet street are flanked on either side with hosiers, mercers, and various shops of the greatest pretensions. From the most distant parts in the East End almost every house contains shops, which increase in attractiveness in proportion as they advance toward the fashionable regions of the west.—Cheapside has long been famous for its traffic. Tournaments were formerly held there, and along it proceeded all the city pageants. One of its cross streets, King street, leads to the Guildhall, and Queen street to Southwark bridge. The mansion house stands at the E. end of the Poultry, which is a continuation of Cheapside, and on lord mayor's day the street is still made the scene of a quaint and antiquated procession. Not far from Cheapside are the general post office and Newgate prison. Newgate street, a little to the N. of which lie Bartholomew's hospital and Smithfield, communicates through Skinner street, a new street built on the site of the steep place formerly known as Snow hill, with Holborn, which runs E. and W. between Drury lane and Farringdon street. Holborn was the old road from Newgate and the tower to the gallows at Tyburn. From Drury lane to Brook street it is called High Holborn, from thence to Fetter lane Holborn, and from Fetter lane to Farringdon street Holborn hill. The descent of the latter is so steep that it is in contemplation to make a viaduct from Newgate street to the top of the hill. Holborn communicates with curious little lanes, as Shoe lane and Leather lane, the names of which indicate the former industry of the locality, and with Gray's Inn lane, Chancery lane, and other head-quarters of lawyers. Many of the courts and alleys between Holborn and the Strand are still inhabited by the lowest order of the population; and especially at early dawn the street presents an odd appearance, many of the poor people creeping from their haunts and thronging round the stalls where coffee and other refreshments are

sold. In the vicinity of Smithfield and Barbican the street is still unsafe during the night; and although the rookeries of St. Giles's have been mostly broken up and the watchfulness of the police has much increased, cries of disorder continue not the less to be heard in the by-streets and lanes of Holborn. Holborn leads into Oxford street, which runs between St. Giles's pound and the site of old Tyburn turnpike, and was formerly known as Tyburn road. New Oxford street, opened in 1847, occupies the site of the worst part of St. Giles's, which was a notorious place of resort for the most audacious sharpers of the metropolis. All that remained in 1850 of this ruffian horde was crowded into about 100 miserable hovels in Church lane and Carrier street. Oxford and New Oxford streets abound with splendid shops, although less fashionable than those of Bond and Regent streets. —The journey from the East to the West End through Holborn is far less agreeable than that through the Strand. On leaving Cheapside for the Strand, St. Paul's, the chief religious edifice of London, first presents itself; a line of small streets or lanes lead from the hill on which the cathedral stands toward Blackfriars bridge. In Water lane, Blackfriars, is Printing House square, containing the offices of the "Times" newspaper. Near St. Paul's churchyard is Paternoster row, the great publishing market. At the end of Ludgate hill formerly ran the river Fleet, now a sewer. West of the Fleet is Fleet street, at the end of which, marking the city boundaries, is Temple Bar, where on state occasions the lord mayor of London meets the sovereign. The Strand extends from Essex street (a little beyond Temple Bar) to Charing Cross. On its S. side curious and narrow lanes extend downward to the river. On the same side are the sites of Essex and Arundel house and of Maypole; Adam street, leading to Adelphi terrace; Wellington, leading to Waterloo bridge; and Northumberland house, near Charing Cross. On the N. side is Wych street, communicating with Drury lane amid a labyrinth of alleys, courts, and lanes, teeming with poor Irish; and Holywell street, full of second-hand book stalls and clothes dealers. Somerset house and Exeter hall are also in the Strand. A communication was completed in 1859 between Tavistock street and the Strand. Charing Cross and Trafalgar square (called by the late Sir Robert Peel the finest site of Europe, but the latter rather deformed than adorned by the want of proportion in the Nelson and other monuments) are the great turning points from Westminster bridge and various parts of the West End and N. W. to the city, and, from their proximity to the club houses and the houses of parliament and galleries of art, are among the most busy localities in the metropolis, especially during the season, when cabs start thence in all directions in such numbers that Charing Cross has often been called the centre of cabs. Pall Mall, where most of the clubs are situated, extends from the

foot of St. James's street to the foot of the Haymarket, and was as favorite a resort of the wits of Queen Anne's time as it is of the fashionable gentlemen and politicians of the present day. Between Charing Cross and Regent street it is called Pall Mall east, and thence to St. James's street simply Pall Mall. It is pronounced Pell Mell, and was so written by Pepys, who says in 1660: "We went to Wood's at the Pell Mell (our old house for clubbing), and there we spent till ten at night." In Pall Mall are the British institution, the new society of painters in water colors, Marlborough house, the principal clubs, and at the end of the Mall is St. James's palace. St. James's street, also celebrated for its club houses, commences at St. James's palace and extends to Piccadilly. Not far away from it are Willis's rooms, where the once highly fashionable balls of Almack's are held. Some excellent hotels are in St. James's street, as well as in the adjoining Jermyn street. Haymarket, with the Haymarket theatre and Her Majesty's theatre or Italian opera house, is chiefly occupied on its W. side by restaurants and oyster shops. At night the Haymarket is the resort of what Charles Dickens calls "the worst company in London, male and female," particularly adjoining Coventry and Regent street. Drury lane, not far distant from Great Russell street, where the British museum is, communicates through Long Acre, much occupied by carriage builders, with Leicester square, which is the principal resort in London for foreigners from the continent. Little Russell street leads from Drury lane to Covent Garden and to Drury Lane theatre. Notorious in the neighborhood of Drury lane is Charles street, alias Lewknor's lane. The queen of Bohemia died in Craven house (now Craven buildings), and Nell Gwynn was born in Coal yard. Further westward there are 8 great thoroughfares to Piccadilly: the Haymarket, the fine opening of Waterloo place and Regent street, and St. James's street; and a new street, in course of erection, will afford a direct link between Covent Garden market and Piccadilly. —Piccadilly, one of the most brilliant streets of the metropolis, particularly at its W. entrance from Hyde Park corner, with Apsley house on the one hand and the arch surmounted by an equestrian statue of the duke of Wellington on the other, near Constitution hill and the Green park, is mentioned for the first time in the latter part of the 16th century by Gerard, who remarks that "the small wild bugloss grows upon the dry ditch bankes about Pickadilla." It continues to be one of the great points of egress from London, although the White Horse cellar, whence the mail coaches started for the west of England, which made Hazlitt say "that the finest sight of the metropolis is that of the mail coaches setting off from Piccadilly," has lost much of its bustle since the introduction of railways. Piccadilly communicates with the bachelor chambers in the Albany, and through Park lane, one of the most beautiful and select streets of the

West End, with Oxford street. Bond street, on the right of Piccadilly, is celebrated for its fashionable shops and hotels, the Clarendon being there, and Mivart's, the most aristocratic hotel of London, being in the vicinity. Through Burlington arcade it communicates with Burlington street and Saville row, the latter much inhabited by physicians. Regent street, the handsomest street of London, commences at St. Alban's street, crosses Piccadilly and Castle street, where it forms a quadrant, and then crosses Oxford street to Langham place, where it opens into Portland place. It contains the most elegant shops of the metropolis. That part which intersects with Portland place contains the polytechnic institution and the national institute of fine arts. The Edgeware road, one of the principal thoroughfares of the West End, leads from the W. end of Oxford street, and proceeds due N. to St. John's Wood, the latter a very agreeable retreat, most of the houses being provided with gardens and almost entwined in flowers and evergreens. In Bayswater, Maida hill, and many streets clustering round Kensington gardens and in Kensington proper, are also many delightful cottages and elegant mansions; and no greater contrast can exist than that between the almost dreamy repose and beauty of this neighborhood and the excitement in Regent street and Charing Cross, and the turmoil in the city. The Harrow road, diverging from the Edgeware road, leads to the famous village and school of that name, as well as to Kensal Green cemetery. New lines of streets have arisen in that neighborhood within the last 20 years, as Westbourne terrace, the place of residence of Mr. Cobden and of many wealthy merchants and stockbrokers, Westbourne Park villas, and other pleasant new streets, the number of which is constantly increasing, owing to the rural and at the same time convenient situation of this region, being within a short distance of the Bayswater and Paddington line of omnibuses, and of the Great Western railway station in Paddington. Mayfair, including Curzon street, Hill street, Chesterfield house, Berkeley square, and a large portion of the streets and squares between Piccadilly and Grosvenor square, built mostly on ground belonging to the marquis of Westminster, was for nearly 100 years, until the rise of Belgravia, the great fashionable centre of the West End. Sydney Smith used to say that the parallelogram between Piccadilly, Bond street, Park lane, and Oxford street, includes more of beauty, wealth, wit, and fashion than any other part of the world. The two new districts which have sprung up within the last few years are Tyburnia and the above mentioned Belgravia. The former, the northern wing of the West End, is bounded N. by Maida hill, E. by the Edgeware road, S. by Hyde park and Kensington gardens, and W. by Bayswater, and is principally inhabited by professional men and rich city people, or by aspirants to fashion. Belgravia, the southern wing of the West End, was built be-

tween 1826 and 1852. It is bounded N. by Knightsbridge, E. by Grosvenor place, S. E. by Ebury street, and W. by Sloane street. It includes Belgrave and Eaton squares, and is now considered the most fashionable, as it is the most stately neighborhood in the West End. Near Belgravia lie Brompton and Chelsea. Brompton is, on account of its warm and moist air, a resort for consumptive persons, and is also a favorite place of residence for artists and members of the theatrical profession. Chelsea is chiefly inhabited by the poorer classes. N. E. of Tyburnia is the Regent's park district, extending from the N. side of the New road to Camden Town and Somers Town. A distinct communication between the districts lying N. and S. of Hyde park was proposed in 1860. The most princely private residences in the West End are those of the duke of Sutherland, Sutherland house, overlooking Green park; the duke of Devonshire, Devonshire house, walled in and overlooking Piccadilly; the marquis of Lansdowne, walled in and overlooking Berkeley square; the duke of Northumberland, Northumberland house, overlooking the river; the marquis of Westminster, Grosvenor street; and the marquis of Hertford, Hertford house, overlooking Hyde park.—The squares contribute greatly to the salubrity and beauty of London. The most fashionable of them are: Grosvenor square (654 feet square), with the mansions of the earls of Shaftesbury, Wilton, Fortescue, and Harrow, marquises of Aylesbury and Exeter, Viscount Canning, dowager duchess of Cleveland, countess of Morington, &c.; Belgrave square (684 feet by 637), with the mansions of the Rt. Hon. Sidney Herbert, duke of Bedford, earl of Sefton, Lord Taunton, Viscount Combermere, duke of Montrose, archbishop of York, Sir Roderic Murchison, Lord Panmure, &c.; Portman square (500 by 400), with the mansions of the dukes of Newcastle and Hamilton, earl of Cardigan, &c.; St. James's square, the residence of the earl of Derby, of the duke of Cleveland, earl of Eglinton, marquis of Bristol, and the bishops of London and Winchester, and the seat of the Norfolk house and of the Wyndham club. Among the largest squares are Eaton (also one of the most fashionable in Belgravia), 1,637 by 871 feet; Cadogan, 1,450 by 870; Bryanston, 814 by 198; Montague, 820 by 156. All the squares W. of Regent street, among the more prominent of which may be mentioned Berkeley and Cavendish squares, may, on the whole, be called fashionable. Two other divisions of squares are situated between Regent street on the W. and Gray's Inn lane and Chancery lane on the E.; Holborn and Oxford street form the boundary line between them. South of that line are the squares which, having once been the seats of rank and elegance, and still bearing marks of faded splendor, have become rather unfashionable. North of it are the squares inhabited by the aristocracy of the legal profession, among whom mingle merchants and literary men; such are Russell and Bedford squares. To

the E. of Bedford square, passing along Guildford street, are Queen square and Brunswick and Mecklenburg squares, with the foundling hospital and grounds between them. To the N. of this range is a group consisting of Regent, Torrington, Woburn, Gordon, Tavistock, and Euston squares, together with the semi-square, Burton crescent, all new and not very remarkable, while Fitzroy square is considered a failure. Eastward of Gray's Inn and Chancery lanes are the obsolete city squares. There are however anomalies in their division. Red Lion, Bloomsbury, and Queen squares are not much superior to the city squares, while Finsbury square in the city is almost as handsome as those in the West End. Lincoln's Inn fields and Covent garden are both squares. Soho square, near Oxford street, was one of the gayest in London about the time of the accession of George III., and witnessed the orgies of George IV. when prince of Wales, but has lost all its importance, and is only interesting as the seat of the Linnæan society in the house formerly inhabited by Sir Joseph Banks. Golden square partakes of the character of Leicester square in the large number of foreigners who frequent it. Squares now exist in all the suburbs of London. Hoxton and Kensington squares are the oldest of these. Crossing the Regent's park to the S. W. is the genteel Dorset square. On the Surrey side there are some fine places, as Kennington common and Camberwell green, and few squares except Kennington oval, which however partakes more of the character of a circus than a square. In the new town springing up to the N. of the terraces and gardens which line the Oxford road as it skirts Hyde park, there are Hyde Park and Gloucester squares, and two squares and two crescents, forming a whole though separated by roads, namely, Oxford and Cambridge squares and Southwick and Norfolk crescents, which are built in the Belgrave style. Squares are very abundant in the suburb west of Belgrave square. Next upon Kensington square follow the squares and places in Hans Town, so called after Sir Hans Sloane, between Chelsea and Brompton. Hans place, a hexagon, is so quiet that Mrs. Hall says in one of her novels: "The very cats which come to reside there unlearn the art of mewing." Brompton has Trevor, Montpelier, Brompton, Alexander, and Thurloe squares. One of the most beautiful squares of Kensington is Edwardes square, laid out by a Frenchman at the back of the range of houses that front toward Holland house. The fashion of squares is now spreading fast over all new districts of the metropolis.—There are 7 parks in the metropolis. Hyde park (area about 400 acres) is entered from Piccadilly by a screen of triumphal gates, and from Oxford street by a marble arch removed thither from Buckingham palace in 1851. It connects the Green park with Kensington gardens, and extends from Whitehall to Kensington. It is well wooded, intersected by well kept foot paths and carriage roads, and ornamented by a sheet of water

called the Serpentine. Hyde park is a favorite resort of the working classes on Sundays, and is visited by crowds of people, on foot and on horseback, during the week days. During the season, however, it presents the most brilliant appearance, especially in the afternoon, when the long ride called Rotten row (from Apsley house to Kensington gardens) is thronged with equipages and equestrians of both sexes. The carriage drive along the upper side of the Serpentine is called "the Lady's mile." On the S. side of the park, opposite Rutland and Prince's gates, stood the crystal palace of 1851, which has since been taken down and removed to Sydenham. From an early period to the present time this park has been a favorite locality for military reviews. Regent's park (450 acres) is situated at the S. foot of Primrose hill, which is connected by a ridge with the N. part of Hampstead. The S. side is parallel to the New road, which is S. of it; the E. side extends northward to Gloucester gate; the W. side extends to Hanover gate. The N. terminations of the E. and W. sides are connected by an irregular curve nearly coinciding with the sweep of Regent's canal, which passes along and within the N. boundary of the park. Through the centre of the park, on a line with Portland place, and along the E. side of the zoological gardens, runs a broad avenue lined with trees, from which foot paths ramify across the sward in all directions, interspersed with shrubbery. Around the park runs a drive nearly 2 m. in length. The park is nearly circular and surrounded by mansions of the larger class built in uniform terraces, which produce a favorable effect. The zoological and botanical gardens, which are in this park, are among its principal attractions. On its E. margin stands the Colosseum, a 16-faced polygon surmounted by a dome 120 feet in diameter, and used for the exhibition of panoramas. St. James's park (90 acres) resembles in its shape a boy's kite; the head is bordered by the horse guards in the centre, the admiralty on its right, and the treasury on its left; the tail is occupied by Buckingham palace; its N. side by the Green park, Stafford house, St. James's palace, &c.; and the right or S. side by Queen square and the Wellington barracks. It was a favorite lounge of Charles II., during whose reign St. Evremont was honorary keeper of the ducks. The gravelled space in front of the horse guards is called the parade; the N. side is called the Mall, and the S. the Birdcage walk. The road connecting this park with Hyde park and skirting the garden wall of Buckingham palace is called Constitution hill, where Sir Robert Peel was thrown from his horse, in consequence of which he died. Green park (60 acres), next to Hyde park, is entered from Piccadilly by a triumphal arch, with an equestrian statue of Wellington, and situated between that street and St. James's park, Constitution hill, and the houses of Arlington street and St. James's place. The available space of this park was extended in 1856 by the removal of the reservoir of

the Chelsea water works. It is one of the smallest, but the prettiest park of London. Victoria park (about 800 acres), laid out in the reign of Queen Victoria, serves as a lung for the crowded districts of Bethnal Green and Spitalfields in the N. E. part of London. It is bounded S. by Lea Union canal, W. by Regent's canal, E. by Old Ford lane, leading from Old Ford to Hackney Wick, and N. by an irregular line of fields. A new main line of thoroughfare from Victoria park to the East India docks was commenced in 1860. Kennington park, formerly Kennington common, on the Surrey side of the Thames, laid out in 1852, contains about 20 acres, and is still in its infancy. Battersea park, also on the Surrey side, opposite Chelsea hospital, &c., is in course of formation. Its extent will be about 200 acres. The grounds have been laid out, and an esplanade leading to the park was opened in 1857. Beside these parks in the metropolis, there is Greenwich park with the Greenwich observatory, and with its extensive pleasure grounds, and Richmond park, with the residence of Lord John Russell in Pembroke lodge, 9 m. from London, containing over 2,200 acres, and distinguished for its beautiful scenery; also Bushy park near Kingston and Hampton Wick, within a short distance of Richmond, celebrated for its chestnut avenue.—The principal public gardens of London are Kensington gardens, E. of Kensington palace, with a charming variety of surface in wood and water and extensive ground. An exquisite walk of flowers and shrubs extends from the central avenue along the S. boundary of the garden. The numerous plants are distinguished by inscriptions. The lawn in the W. park, near the palace, darkened by cedars of Lebanon, is a lovely and romantic spot, and the general beauty of the gardens is perhaps unequalled in any part of the world. They are separated from Hyde park by a bridge over the Serpentine. The Kew botanic gardens are 5 m. from Hyde Park corner, on the road to Richmond. Their principal attractions are the palm house and the new museum. The pleasure grounds adjoining, and partly surrounding the gardens, comprise 170 acres, laid out in half garden, half park style. The Chiswick gardens are to horticulture what those of Kew are to botany. The other principal gardens are the royal botanic and zoological in Regent's park. The Royal Surrey gardens, in Camberwell, and the Cremorne gardens, Chelsea, have extensive grounds, but are interesting only as places of popular amusements. Vauxhall gardens were closed as a place of amusement in 1859, the site to be covered with lines of streets and terraces. Beside these parks and gardens, there are many fine places in almost all directions from London, to which the people resort on Sundays and holidays. Among these are Hampstead Heath, Greenwich, Blackwall, Gravesend, Richmond, Hampton Court, Blackheath, &c.—Religion is represented in the whole metropolitan district, according to the census of 1851, by

about 1,100 places of worship. The London directory of 1857 enumerates in the metropolis proper 822 churches and chapels, viz.: Baptist, 95; Calvinist, 7; Church of England, 417; Church of Scotland, 5; Friends', 7; German Catholic, 1; Greek (one for the modern Greeks, and the other for the Russians in London), 2; Independent, 117; Irvingite or Oatholic Apostolic, 6; Jewish synagogues, 10; Lutheran, 5; Methodist, Calvinistic, 4; do., New Connection, 4; do., Primitive, 7; Moravian, 1; Mormon, 3; Presbyterian (including 2 English and 1 Free church Presbyterian), 9; Roman Catholic (including Bavarian, French, Sardinian, and Spanish churches or chapels), 28; Swedish, French, and Swiss Protestant, 8; Unitarian, 7; various Protestant denominations, 12; Wesleyan, 68; Wesleyan dissenting, 9. In the directory of 1860 the number of churches and chapels is 852. The most remarkable of the oldest minor churches are St. Saviour's, Southwark, with a Lady chapel and tomb of Gower, and the remains of Fletcher and Massinger; the Temple church, in the Inner Temple, restored in 1842, with its central portion modelled from the Holy Sepulchre, and with the tombs of Selden and Goldsmith; Savoy church, or St. Mary-le-Savoy, near the Strand, on the site of Savoy palace, with many ancient and quaint monuments; Whitehall chapel, one of the chapels royal, opposite the horse guards, the famous banqueting house built by Inigo Jones, the ceiling painted by Rubens, and the only remaining relic of Whitehall palace—Charles I. walked to the scaffold through one of its windows; and St. Margaret's, Westminster, the resort for public worship of the house of commons on great occasions. The churches of a date later than 1666 are chiefly works of Wren and his imitators. Among the principal churches built by that celebrated architect are: St. Stephen's, Walbrook, considered as his masterpiece; Bow church, Cheapside; St. Bride's, Fleet street; St. Andrew's, Holborn hill; St. Clement Danes; and St. Magnus, London bridge. Among other noteworthy places of worship may be mentioned St. Martin's-in-the-Fields; St. Mary-le-Strand, by Gibbs; St. Pancras new church, by Mr. Inwood; Marylebone new church, by Hardwicke; St. Luke's, Chelsea; and St. Stephen's, Westminster, a fine specimen of modern Gothic, built at the expense of Miss Coutts. Among the most popular are St. James's, Piccadilly, by Wren, and St. George's, Hanover square, by James, the latter the most fashionable for marriages. All these places of worship belong to the established church. The most noteworthy of other denominations are the cathedral-like Apostolic church (Irvingite), in Gordon square, and the Wesleyan chapel in the City road, with the tomb of Wesley. The foundation stone of a tabernacle for Mr. Spurgeon was laid on a site near the Elephant and Castle, Newington, Surrey, Aug. 16, 1859, the building to accommodate about 5,000 people, and the cost, including the site, amounting to about £30,000.

Among the principal new churches are St. Matthew's, Oakley square, accommodating about 1,000 persons, and All Saints' church, Margaret street, the *chef d'œuvre* of modern mediævalism, of which the foundation stone was laid by Dr. Pusey in 1850, and which was opened in 1859. The principal Roman Catholic edifice is St. George's cathedral, in the Roman Catholic diocese of Southwark, at the corner of the St. George's and Westminster roads, the largest Roman Catholic church in England since the reformation, accommodating 8,000 persons. It was built in 1840-'48 by Mr. A. W. Pugin. The principal synagogue is in Great St. Helena, St. Mary Axe, Leadenhall street.—The most imposing religious edifices of London are St. Paul's cathedral and Westminster abbey. The former stands at the head of Ludgate hill, on the site of old St. Paul's, the origin of which is traced back to the beginning of the 7th century, and which was destroyed by the great fire of 1666. The present cathedral was completed in 1711. (See CATHEDRAL.) Among its monuments are those of Nelson, John Howard, and Dr. Johnson, to which that of Sir Charles Napier was added in 1860. In the crypt are the tombs of Nelson and Wellington. In the interior of the dome is the "whispering gallery," communicating with the stone gallery on the outside of the dome, whence the outer golden gallery at the apex is reached, which affords a noble view of the metropolis and its vicinity. The whole ascent is by 616 steps, of which the first 260 are comparatively easy and well lighted. In the S. W. tower are the clock room and the great bell, the diameter of which is about 10 feet. The charity children of London assemble once a year in the cathedral. St. Paul's is the cathedral church of the see of London. Its administration is under the charge of a dean and chapter, consisting of 4 resident canons, 4 prebendaries, and various minor officers.—Westminster abbey, in the West End, existed before the end of the 8th, and is traced back to the early part of the 7th century. The larger portion of it in its present condition was completed in 1245. It is in the form of a somewhat irregular cross. Its length, exclusive of Henry VII.'s chapel, is 511 feet; extreme breadth at the transept, 263; height of the nave 102, and of the towers 225 feet. Soon after the revolution, the abbey, which had suffered much during the civil wars, was repaired, and the western towers were added by Wren, but in a mixed Grecian and Gothic style which occasioned much criticism. On approaching Victoria street from Parliament street, the buttresses and pinnacles and the whole expanse of the abbey gradually open to view. The British sovereigns, from Edward the Confessor to Queen Victoria, have been crowned in Westminster abbey, and many of them are buried there, some with, others without monuments. Surrounding the E. end in a semicircle are 9 chapels, the most interesting of which are those of Edward the Confessor, beyond the altar, and of Henry VII., which forms the east-

ern extremity of the abbey. The centre of the former chapel is occupied by the shrine of Edward the Confessor, formerly richly inlaid with mosaic work. Henry VII.'s chapel is a fine specimen of the architecture of the time of that monarch, who founded it. The monuments of Queen Elizabeth and the queen of Scotland are in the N. and S. aisles of the chapel respectively. In the south transept, in and near Poets' corner, are monuments to most of the great poets of the country; and here, as well as in both aisles of the nave and choir, are monuments to other distinguished persons, including notabilities in all departments of life. Among those buried there most recently are Stephenson and Brunel the engineers, and Macaulay the historian. The new Westminster memorial, by Mr. Scott, in honor of Lord Raglan and other old Westminster scholars who died in the Crimea, is to be erected at Dean's yard, opposite the W. end of Westminster abbey. Religious service is performed daily in the abbey, and the services on Sunday are numerously attended, though the voice of the preacher can only be heard by a minority of the congregation. Westminster abbey is officially called the collegiate church of St. Peter's, Westminster, and is governed by a dean and chapter of 8 prebendaries, and other officers.—Beside the churches, there are various societies for religious purposes, as the society for promoting Christian knowledge, the religious tract society, the London and the church missionary societies, the society for propagating the gospel in foreign parts, and the British and foreign Bible society. There are about 700 Sunday schools (nearly 400 supported by the dissenting bodies, 259 by the established church, 5 by Roman Catholics, 3 by Unitarians, and the rest by various denominations), attended by nearly 189,000 of both sexes, the girls slightly preponderating.—Charity is extended to the paupers of London by the public poor-houses and workhouses, where about 100,000 are annually relieved. The receipts of poor rates are expected to amount in 1860 to about £1,500,000. Beside this relief granted by law in the most extreme cases of destitution, there are nearly 600 institutions, chiefly supported by voluntary contributions, and spending about £2,000,000 for the relief of all sorts of physical and mental diseases, for the suppression of vice, for the deliverance of poor debtors in prison, for the reform of prostitutes, for the prevention of cruelty to animals, &c. The education of poor children in the so called ragged schools has of late years received a great impulse from the efforts of many eminent philanthropists. About 20,000 children are now annually rescued from a life of crime by the aid of these institutions. Poor children are also educated in the foundling hospital, so called because originally intended for foundlings exclusively, and in various other institutions, beside the ragged schools proper. The "Albert Institution" in Gravel lane, Blackfriars road, was opened in Aug. 1859, in one of the most disreputable neighborhoods in London, as a

reformatory establishment. It comprises infant, ragged, and Sunday schools, a reading room, a library, baths, washhouses, and cheap dormitories. The number of such institutions is increasing. The number of hospitals, infirmaries, dispensaries, and other establishments of the kind, was in 1859 about 200. The most celebrated of these are Chelsea hospital for old and disabled soldiers, and Greenwich hospital for disabled sailors. (See *CHELSEA*, and *GREENWICH*.) The most extensive hospital in the city of London is St. Bartholomew's, West Smithfield, which relieves annually upward of 70,000 out-door and in-door patients. The two other greatest hospitals of London are on the Surrey side—St. Thomas's in High street, Southwark, and Guy's hospital in its vicinity, which supports a separate lying-in asylum. Similar institutions are the London (in 1859, 28,290 patients), Westminster, Charing Cross, Middlesex, and other hospitals. Among special hospitals are those for small pox in Upper Holloway, for consumption in Brompton and in the City road, for diseases of the eye in Finsbury and Charing Cross, and the royal orthopedic hospital, Oxford street (in 1859, 1,400 cases of club-foot). The foundation stone of the Royal Victoria patriotic asylum, Wandsworth common, for 300 orphan daughters of soldiers, sailors, and marines, to be endowed from the royal patriotic fund, was laid by the queen, July 11, 1857. The new national hospital for the paralyzed and epileptic was opened in 1860 in Whitechapel, and placed under the direction of Dr. Brown-Séquard. The best known lunatic asylum, the name of which has often been generally applied to establishments for the insane, is Bedlam, or more properly Bethlehem hospital, called so after the priory of St. Mary of Bethlehem, from which it originated in the middle of the 16th century. After various vicissitudes the old building was taken down and the first stone of the present hospital, in St. George's fields, was laid in 1812. It is a fine building, nearly 700 feet long, the centre being surmounted by a dome and supported by 6 Ionic columns. The patients are treated with great skill and kindness. The women are supplied with pianos and the men with billiards and other amusements. A few cells are lined and floored with India rubber and cork, against which the most insane person may fling himself without possibility of injury. It can accommodate about 500. Lock hospital, in Harrow road, was established for the cure of females suffering from disorders contracted by a vicious course of life, and supports a chapel and an asylum for the reception of penitent females recovered in the hospital. The Dreadnought or seaman's hospital ship, called after a ship of war of that name, is moored in the river off Greenwich, and accessible to sick sailors of all nations. The leading charities for the blind and the deaf and dumb are the school for the indigent blind, St. George's fields, Surrey; the London society for teaching the blind to read, in Avenue road, St. John's Wood; and the asy-

lum for deaf and dumb children in Old Kent road, Surrey. There is also a seaman's home near the London docks, which rescues annually from 8,000 to 5,000 sailors from the dirty and disreputable lodging houses which disgrace the courts and alleys of Wapping, Shadwell, and East Smithfield.—Education now receives increased attention in London. Of public day schools there were nearly 900 in 1851, attended by 167,298 scholars (97,675 boys and 69,623 girls), and of private day schools 8,700, usually attended by 87,000 of both sexes. The university of London, established in 1828, consists of government examiners who are authorized to confer degrees in art, law, and medicine upon the graduates of University and King's colleges in London, and other proprietary establishments of a similar character. It is constituted for the sole purpose of promoting knowledge without distinction of sect, rank, or party, and of ascertaining the proficiency of candidates for academical honors. A new charter was granted to the university in 1858, and if the right proposed by the new reform bill brought before parliament in the session of 1860 should ultimately be attained, the university would be entitled to a representative in the house of commons, to fill which the names of Sir John Romilly and others have already been mentioned (June, 1860). The present chancellor of the university is Earl Granville, and the vice-chancellor Sir John George Shaw-Lefevre, the son of the former speaker of the house of commons. University college, Gower street (originally called London university), opened in 1828, teaches most branches of learning excepting divinity, and is open to all religious denominations. Lord Brougham, the principal promoter of this institution, continues to be president. King's college, Somerset house, the rival institution, and founded in the same year, resembles the former in almost every respect, except that divinity is taught there under the auspices of the established church. The new college for Independents possesses a faculty of theology and a faculty of arts. St. Paul's school, founded in 1509, where Milton was educated, was rebuilt in its present form in 1823. Among the other noteworthy institutions are St. Peter's college, or Westminster school, where Ben Jonson, Dryden, Locke, and Gibbon received their education; merchant tailors' school, charterhouse school, and the school called Christ's hospital. (See *CHARTERHOUSE*, and *CHRIST'S HOSPITAL*.) The city of London school for the sons of persons of the middle class was established in 1835. A government school of design or department of practical art was established in Marlborough house and Somerset house in 1837, under the auspices of the board of trade. The Wesleyan normal college, Westminster, was established in 1850; and there is another normal school at Fulham. Medical and surgical schools are attached to the great hospitals, and there are several distinct colleges for the study of those sciences; the college of physicians in Pall Mall

and of surgeons in Lincoln's Inn fields hold examinations for licenses or diplomas to practise in the respective professions. Knowledge is greatly fostered in London by the increasing number of mechanics' institutes and literary societies. The daily and periodical journals and magazines, nearly 500 in number, diffuse a vast amount of intelligence among many people who cannot afford an expensive education. Literature and learning are further promoted by the library of the British museum and other libraries, especially public circulating libraries, which abound in many parts of London, the London library in St. James's square, with about 80,000 volumes, being the largest of the kind. Many of the societies for the promotion of the various branches of science, as the royal society, the zoological, geographical, astronomical, geological, Asiatic, and Linnæan societies, and London and Middlesex archæological society, have a world-wide reputation and influence. The polytechnic institution aims by its exhibitions and by lectures delivered there to popularize the mechanical sciences. Prof. Faraday and other eminent men lecture at the royal institution in Albemarle street, from the same desk from which Coleridge, Sir Humphry Davy, and Sydney Smith once enlightened their audiences. The number of institutions of a similar class, which are all liberally supplied with books and newspapers, is already great, and is continually increasing. There are collections of natural history in the British museum and in various other localities.—The fine arts are promoted by the celebrated Elgin and Townley marbles and by the collections of statuary and pictures in the national gallery. The principal private collections are those of the queen, the duke Sutherland, marquis of Westminster, earl of Ellesmere, Sir Robert Peel, Mr. Hope, Mr. Thomas Baring, &c. The royal academy, where Sir Joshua Reynolds was once president and lecturer, and where annual exhibitions are held, the British institution, the society of painters in water colors, and the society of British artists in Suffolk street, are among the principal art associations. The new Kensington museum was opened in 1857, and contains now the galleries of modern English art. The Ellison gallery, consisting of 50 original English water color pictures, was presented to it in 1860 by Mrs. Elizabeth Ellison. The Vernon and Turner pictures were removed in 1859 from Marlborough house to a part of the same building adjoining the Sheepshank gallery. Some 20 acres of the adjoining grounds are being converted into gardens for the horticultural society, to be provided with a conservatory, so as to form a winter garden. New museums in the Kew gardens and the East India house were also opened in 1857, the latter for Indian works of art, which will soon probably be removed to the British museum, the sale of the E. I. house being proposed. The chief art organ is the "Art Journal," the "Athenæum" and other literary journals also devote much attention to

the discussion of art. There is an institution for civil engineers, and one of British architects. The architectural union, formed for the purpose of providing a building for the meetings and exhibitions of the various architectural societies, in 1857 took a house in Conduit street, and have erected there 8 galleries. The female school of art and design has been attended since 1852 by about 100 pupils annually, and in 1860 numbered 118. The monuments and statues of London are not remarkable for artistic beauty. They are chiefly in honor of the various sovereigns, and of statesmen and warriors, as Pitt, Fox, Canning, and Wellington. An archæological institute and association were established in 1843. London, especially the most ancient part of it, the "city," abounds in every direction with objects of study for the archæologist and historian. The most remarkable of the kind is afforded by the tower of London, with its collections of armor, the jewel house containing the regalia and coronation plate, and the Beauchamp tower in which Lady Jane Grey was confined. Opposite the western angle or bastion of the tower is the spot on Tower hill famous for executions; and near the traitors' gate, midway in the tower wall which faces the Thames, is the so called Bloody tower, from the cruel deeds with which it is associated.—The art of music is encouraged in London by the royal academy of music, by the sacred harmonic concerts at Exeter hall, the philharmonic and several other societies, and Mr. Hullah's concerts in St. Martin's hall (St. James's hall, a new hall for musical and other public entertainments and purposes, larger than St. Martin's but smaller than Exeter hall, was opened in 1858), and by Her Majesty's theatre, or the Italian opera house, in the Haymarket. The new Italian opera house in Covent garden, of nearly the same proportions as La Scala at Milan, and about $\frac{1}{2}$ larger in size than the theatre which was burned down in 1856, was built by Mr. E. M. Barry, and opened in May, 1858. Its length is 240, breadth 123, and height nearly 100 feet, and it can accommodate from 2,000 to 2,500. The English and German operas also flourish in London, but only at intervals. Drury Lane is the oldest theatre in London. Among popular theatres are the Princess's, Lyceum, the Haymarket, and the Adelphi. Sadler's Wells theatre has become the home of the Shakespearian drama. The Olympic and Marylebone are also theatres of considerable reputation in their immediate localities. French plays are given during the season at St. James's theatre. Among the smaller theatres are those of the city of London and Garrick and Surrey gardens, and Surrey or circus theatre in Blackfriars road. The most democratic place of theatrical entertainment is the large Victoria theatre, in Waterloo Bridge road, Lambeth, holding about 2,000 people. New theatres are the New Adelphi, holding 1,400 persons; the Britannia theatre, Hoxton, one of the somewhat anomalous places of amusement, and now the largest theatre in

London, accommodating about 8,500 persons; and the New Pavilion, Whitechapel, intended for one of the lowliest audiences of the metropolis. Astley's amphitheatre near Westminster bridge is famous for its equestrian performances, and is now used both as theatre and amphitheatre. The foundation stone of a royal dramatic college was laid June 1, 1860.—The principal club houses in Pall Mall are the Army and Navy, Athenæum, Carlton, Guards, Oxford and Cambridge, Reform, Travellers', United Service, and United University. In St. James's street are Arthur's, Boodle's, Brooks's, the Conservative, and White's. The Junior United Service club, rebuilt and enlarged in 1857, is in Charles street, St. James's; the Windham in St. James's square; the Union in Trafalgar square; the Oriental in Hanover square; the Parthenon in Regent street, to which was joined in 1854 the Erechtheum; the City club, in Old Broad street. The Garrick club, named after David Garrick, and combining the advantages of a club with those of literary society, is in King street, Covent garden. Brooks's is the famous old whig, and Boodle's the equally celebrated old tory club. The Carlton, the Conservative, and the Reform clubs are also of a political nature, the first two tory and conservative, and the last liberal. The two United Service clubs and the Army and Navy club are exclusively professional. The Athenæum is strongly infused with a literary and artistic element. White's is the oldest and most exclusive, and is intimately associated with Addison and Steele, and White's chocolate house of the "Tatler;" the number of members is usually limited, but varies from 500 to 2,000. There are on the whole over 20 large club houses in London, all nearly in one locality, either in or clustering round Pall Mall and St. James's street. The Whittington club and metropolitan Athenæum is an institution in Arundel street, Strand, established mainly for the purpose of offering the conveniences of a cheap club for men and women in the middling walks of life, but counting many literary persons among its members.—The law is represented in London by 4 great inns or societies: the Inner Temple, Middle Temple, Lincoln's Inn, and Gray's Inn. (See INNS OF COURT.) The most important courts of law are held partly in Lincoln's Inn and partly in a wing attached to the W. side of Westminster hall, which forms the vestibule to the houses of parliament. The courts are those of queen's bench, common pleas, and exchequer, of the chancellor, master of the rolls, lord justices of appeal, and vice-chancellors. In vacation, the chancellor holds his court in the old hall, Lincoln's Inn, and the master of the rolls in Rolls court, Chancery lane. The ecclesiastical and admiralty courts sit at doctors' commons. The new court for divorce and matrimonial causes held its first meeting May 10, 1858. The bankruptcy court in Basinghall street, the insolvent debtors' court in Portugal street, the courts of the lord mayor and of the sheriffs of the city of London, 10 of the new county courts for the de-

cision of claims under £50, and various minor courts, make up the sum total of London courts, irrespective of the principal or the central criminal court held at the Old Bailey, which presents a painful and gloomy appearance from the aggravated nature of the offences tried there. The lord mayor is the nominal president of this court, but two judges selected each term from the judges of the queen's bench, exchequer, and common pleas try most of the cases; a few being also presided over by the recorder or common sergeant of the city of London. The vicinity of this court is haunted by the refuse of London lawyers and by some of the worst classes of London society. Inferior offences are tried before the assistant judge at the Middlesex sessions houses. The lord mayor presides over a court at the mansion house, and one of the aldermen holds a court in Guildhall to judge matters of smaller import; beside which there are 11 metropolitan police courts beyond the limits of the city, under the superintendence of the home secretary, making altogether 13 police courts, the magistrates of which have the power to inflict fines and imprisonment for small offences and disorderly conduct, also to inquire regarding capital crimes, and to send prisoners for trial at the central criminal court in the Old Bailey. The police force acting under the commissioner of police, consisting of 18 divisions, is about 6,000, and that under the corporation of the city of London nearly 600. The annual number of offenders against the laws is about 100,000. The number of persons confined for debt in Queen's and Whitecross street prison is about 3,000 annually. Horsemonger lane gaol also includes debtors. Of prisons for criminals there are 12 in the metropolis; the most noted is Newgate, in front of which are executed those sentenced to death for capital crimes committed in London and Middlesex. Convict prisons under the charge of the government are Millbank (for males and females), Pentonville (males), Brixton (females), and Fulham refuge; beside which there are the new house of correction at Holloway, the Cold Bath prison near Gray's Inn lane, the house of detention in Clerkenwell, &c. The number of persons annually confined in the principal gaols sometimes exceeds 40,000.—State affairs are conducted in the government buildings in Whitehall and Downing street, and the legislature transacts its business in the houses of parliament, in the new palace of Westminster, which occupies the site, on the banks of the river, of the old house of parliament, destroyed by fire in 1834. The new palace at Westminster is approaching completion. It will cover an area of upward of 8 acres, and comprise 1,100 apartments, including the houses of lords and commons, the central hall, St. Stephen's hall, &c., each equal in itself to a building of extraordinary magnitude and splendor, and more than 2 miles of corridors and passages. The original estimate of the cost was about £700,000, but it is believed to have reached in 1860 up-

ward of £2,000,000. In 1857 the government offered premiums for a block plan which should exhibit the best scheme for the concentration of the principal government offices, on a site lying between Whitehall and the new palace at Westminster, and extending from the park to the river; and also designs for two buildings, as parts of the general scheme, for the department of the secretary of state for foreign affairs and for that of the secretary of state for war. A new India house is also to be erected, the old East India house in Leadenhall street being inconveniently located for business transactions since 1858, when the Indian government passed into the hands of the crown. Lambeth palace, on the S. side of the Thames, has been the palace of the archbishops of Canterbury from at least the 13th century. (See LAMBETH.) The royal palaces are Buckingham palace, the only town residence of the sovereign; St. James's, in Pall Mall, portions of which are inhabited by the Cambridge branch of the royal family; Kensington palace, westward of Hyde park and between the Kensington and Bayswater roads, in which Queen Victoria was born, and which serves in part as a residence for persons employed at the royal court. These palaces are of little architectural significance. The palaces of Hampton Court and Windsor, in the vicinity of London, are much more interesting.—The troops stationed in London number about 5,000, consisting of 2 regiments of life guards and horse guards and 5 battalions of foot guards. The metropolis returns 16 members to the house of commons, 4 for the city of London, including in 1860 Lord John Russell and Baron Lionel de Rothschild, and 2 each for the city of Westminster and the 5 boroughs. Greenwich also returns 2 members. Chelsea, Kensington, Brompton, and other districts not included in any of the metropolitan boroughs or cities, form part of the constituency of Middlesex. Some of the more populous districts, as Kensington and Chelsea, will probably soon become independent parliamentary boroughs with the right of returning 2 members.—The government of the greater part of the metropolis is under the charge of the home secretary, and administered under his instructions by the commissioners of police; but that portion known as the city is under the exclusive superintendence of the corporation of London, one of the most influential and wealthy municipal bodies in the world. It consists of the lord mayor, the court of aldermen, having 25 members exclusive of the chief magistrate, and 206 common council men. The lord mayor is elected annually from the court of aldermen; he must have previously served as sheriff, and may be reelected. The right of nominating two aldermen worthy of promotion to the mayoralty is restricted to those freemen of the city who have been admitted into the livery of their respective guilds; the aldermen then decide which of the two is to be elected. The aldermen hold office for life. They are elected one for each of the 26 wards of the city, and all res-

ident freemen are entitled to a vote in the election of their ward, whether liverymen or not. The number of liverymen varies between 6,000 and 7,000. Their guilds number upward of 80, 39 of which have separate halls, the rest meeting in Guildhall or in taverns. Among these there are 12 formerly called honorable companies, and still holding a certain preëminence; they are the mercers, grocers, drapers, fishmongers, goldsmiths, skinnners, merchant tailors, haberdashers, salters, ironmongers, vintners, and clothworkers. The guild of saddlers is traditionally the oldest of them all; saddles were known in London as early as A. D. 600. Many of the guilds are possessed of large property, and dispense the most lavish hospitality in their halls. Fishmongers' hall, mercers' hall, grocers' hall, merchant tailors' hall, the new clothworkers' hall in Mincing lane, and, above all, goldsmiths' hall, are among the finest. These guilds are intimately connected with the corporation of London. The guildhall, in which the civic deliberative assembly meets, is a large but not very remarkable building. The lord mayor is the representative of royalty in the civil government of the city, chief commissioner of its lieutenancy, and conservator of the river Thames; and on the death of a sovereign he becomes *pro tem.* a member of the privy council. He has the free use of the mansion house, beside the salary of £8,000 per annum, but is expected to maintain the reputation of the metropolis for hospitality. The day on which he enters into office (Nov. 9) is kept as a partial holiday in the city. He then proceeds in state to Westminster hall, where he is sworn in, and in the evening he gives a sumptuous banquet in guildhall, which is attended by ministers and other public personages.—The following are the principal markets of London. The metropolitan cattle market, between Islington and Camden Town, opened in 1855, occupies 80 acres. Smithfield, on which the old cattle market stood, is famous in history for its jousts, tournaments, executions, and burnings, and for the Bartholomew fair, which was held there. Billingsgate, the great fish market, is a little below London bridge on the left bank of the Thames. (See BILLINGSGATE.) Covent Garden market is the great fruit, vegetable, and herb market, with the finest flowers and fruits in the world. Newgate market, the great carcass market, has been likened on market mornings to one continuous butchers' tray, the West End carcass butchers coming here *en masse* for almost all their meat. Leadenhall market, a large market for butchers' meat, fish, poultry, vegetables, leather, hides, bacon, &c., is situated in Leadenhall street between Gracechurch street and the East India house. Of the minor markets of London, Hungerford and Farringdon markets are the largest. The latter is the great market for water cresses, and is crowded with the masses of the poorer population, particularly early on Monday morning. The most valuable horses are sold at Tattersall's, Grosvenor

place, called so after Richard Tattersall, originally a training groom of the duke of Kingston, who made his fortune by purchasing for £2,500 the celebrated horse Highflyer. During the great races at Epsom and Derby, Tattersall's presents a most animated appearance, the betting there regulating that of the whole country. In connection with Tattersall's is a subscription room under the superintendence of the Jockey club in Old Bond street, which is attended by all the patrons of the turf. Hay markets are held at the east end of Whitechapel, at Cumberland market, Regent's park, as well as in Smithfield. Rag fair is held in Middlessex street, near Tower hill, and is almost exclusively devoted to transactions in old wearing apparel. Another market of the kind in Houndsditch occupies a square open area a little off the street, and is of a somewhat more miscellaneous character; broken umbrellas, old iron, bones, pieces of old harness, all sorts of wearing apparel, and articles of the meanest description, are here brought together. The metropolis consumes in one year about 1,700,000 quarters of wheat, 250,000 bullocks, 1,800,000 sheep, 80,000 calves, 40,000 pigs (beside large quantities of ham and bacon), 4,000,000 head of poultry, 2,000,000 game, over 450,000,000 lbs. of fish (more than half of which are herrings), 800,000 barrels of oysters, 325,000,000 lbs. of potatoes, 90,000,000 lbs. of cabbages, 750,000 bushels of apples, and 75,000,000 foreign eggs. For the annual supply of milk and cream over 13,000 cows are required. The consumption of porter and ale reaches nearly 45,000,000 gallons, beside 2,000,000 of spirits, and 70,000 pipes of wine, chiefly sherry and port. The new commercial treaty with France will probably tend to popularize in London the use of the cheap French wines. The number of beer and gin shops, many of the latter appropriately called gin palaces, is 8,000. The arterial system supplies 85,000,000 gallons of water per day. The main drainage of the metropolis has been placed since 1858 in the hands of the metropolitan board of works. The sewerage carries off 10,000,000 cubic feet of refuse. Exclusive of the coal brought by railway, 8,000,000 tons are annually imported by water. The smoke of the coal may be traced at times at a distance of 40 m. To light the metropolis 6,000,000 to 7,000,000 cubic feet of gas are required, independent of the consumption of oil, candles, &c. About 82,000 tailors, 36,000 boot and shoe makers, 70,000 milliners, dressmakers, and seamstresses, irrespective of dealers in ready-made and second-hand clothing, are engaged in supplying wearing apparel. Of domestic servants there are nearly 200,000, mostly females. Beside 80,000 paupers, there are on an average 30,000 persons without ostensible means of employment, the larger proportion females, many of the country girls being turned upon the town, where in want of honest employment they are doomed to a life of shame. On the other hand, there are a few thousand idlers of large fortune

or independent gentlemen, and over 25,000 who live upon annuities, the bulk of whom are ladies. The number of bachelors is nearly 200,000, of spinsters about 250,000, of widowers 37,000, and of widows 110,000. The annual delivery of letters is 46 for each person of the population (only 22 for each of the population in other parts of the United Kingdom); and to facilitate their distribution, the metropolis was divided in 1858 into 10 postal districts.—The climate of London is temperate and moist. The health of the inhabitants has gradually improved, and promises to improve still more rapidly from the recent stringent laws in regard to burials and the amelioration in the drainage. The rate of mortality in the early part of the 18th century was annually 1 in 20 of the population; at present it is about 1 in 40. It is estimated that 169 persons die daily in London, and that a child is born every 5 minutes. All metropolitan burial grounds which prove injurious to the health of the inhabitants are now, by order of government, closed against funerals without a moment's delay. The number of cemeteries in the suburbs is consequently rapidly increasing. Many of them are prettily situated and laid out with taste, as Highgate, Norwood, and Kensal Green cemeteries. The annual number of fires in the metropolis amounts to nearly 700. There are about 50 offices for effecting fire insurances. Every street is provided with fire plugs for the supply of water for the engines. The chief insurance companies maintain fire engine establishments at 22 different stations, and fire escapes are in readiness at convenient spots throughout the metropolis. The increasing thrift of the middle and lower classes is manifested in the prosperous condition of the life insurance offices, of which there are about 200, and of the loan fund societies and the savings banks. The amount due in the latter to about 260,000 depositors (chiefly in Middlessex) is nearly £5,700,000. Many of the lowest descriptions of the population, however, are slow in emancipating themselves from filthy habits, the number of persons belonging to families who live in one single room being estimated as high as 150,000. The dwellings of a large proportion of the inhabitants of the Potteries, Kensington, for instance, are mere hovels, with shattered roofs and unglazed windows, the floor below the level of the external soil, and the walls at times partially damp. Notwithstanding the great number of the squalidly poor and the vicious contained within its borders, London is said to be one of the healthiest cities in the world.—Over 4,000 cabs and 1,000 omnibuses are employed in the streets of London. The electric telegraph company have 20 stations in different parts of the metropolis. The great railway termini in London are the north-western, great western, south-western, eastern, and the south-eastern counties, beside smaller local lines, as those to Greenwich, Blackwall, Hampton Court, &c. The tunnel under the Thames, situated about 2 m. below London bridge, and

extending from the Middlesex side of the river in High street, Wapping, to Rotherhithe on the Surrey side, was built by the late Sir Mark Isambert Brunel, and completed in 1840. The difficulty of approach makes the tunnel of little convenience for purposes of traffic, but it is visited by thousands who admire the wonderful character of the work: The metropolitan railway, designed to establish a communication between the city and the great series of railways on the N. of the Thames, is in course of construction, and will probably be opened in 1862. It will start from opposite the great western railway hotel at Paddington, with a fork up to South Wharf road to join the great western railway on the level near the site of the old passenger station. The line then crosses the Edgware road and enters the New road, which it follows to King's Cross, where a tunnel was commenced in 1860, it being one of the peculiarities of this railway that throughout the greater part of its course it is to run underneath the existing roadways, thus avoiding the great expenditure which would otherwise have been necessary for the purchase of valuable house property. From King's Cross the line takes an almost straight course to Farringdon street, and this part, except when passing under roadways, will be in open cutting.—The port of London extends nominally and in the eyes of the law $6\frac{1}{2}$ m. below London bridge, to a point called Bugsby's Hole, over against Blackwall, but the port itself does not reach beyond Limehouse. The "Pool" commences just below London bridge, where the river is divided into two channels by the treble range of colliers anchored in it to discharge their cargoes. Only a certain number of the colliers are admitted into the Pool at once, the remainder waiting in the lower pool until the flag which denotes that it is full is lowered, when those enter whose turn is first. Close to London bridge there is water sufficient for vessels of 800 tons. The legislature has placed the shipping of the port and their moorings under the direction of harbor masters nominated by the city corporation and ratified by the Trinity house. The society of the Trinity house, on Tower hill, incorporated in 1815, possesses great wealth; it has the superintendence of the placing and repairs of landmarks and buoys to indicate the channels, and of the whole English lighthouse system, and the appointment and control of pilots. Although the conservation of the river is in some measure under the care of the corporation, Trinity house has concurrent jurisdiction. The principal docks are the West India, East India, London, St. Katherine's, Victoria, and Commercial docks. (See DOCKS.) A little below the tower of London are the St. Katherine's docks, enclosed by warehouses, over which the masts of the larger shipping are observable. Next are the London docks, with the famous wine vaults, holding 65,000 pipes and more. On the opposite shore is the grand Surrey dock, devoted together with the commercial docks to the timber and corn trades. A little

below the Pool, where the river bends abruptly in its course at Limehouse reach, is one of the entrances to the West India docks, which run across the base of the tongue of land called the Isle of Dogs and open into Blackwall reach, the vast number of masts seen across the pasturage resembling a forest of leafless trees. Deptford, on the right hand from Limehouse reach, is a government dockyard, and the seat of the victualling department. Opposite Greenwich are many ship builders' yards. Below Greenwich the shores on either side are exceedingly flat until Blackwall is reached, where the East India docks, full of the largest merchant ships, are situated. Still further down the river is Woolwich arsenal, the largest government ordnance depot, and a depot for convicts. Gravesend, the last town on the banks of the Thames, is about 30 m. from London. Parallel to the basin near Dog and Duck stairs, sometimes called the East Country docks, which leads to the Commercial docks, is the Surrey canal, which communicates with the Croydon canal. The Regent's canal (9 m. in length, and provided with 12 large locks) communicates with the grand junction canal, passes from Paddington by a tunnel under Maida hill to Regent's park, thence to Islington, under which it is carried by a tunnel $\frac{1}{4}$ m. long, and so on to Hoxton, Hackney, and Limehouse. Some of the local traffic is carried on by means of these canals. The principal commerce of London passes through the docks. About 30,000 vessels are engaged in the foreign trade of London, and 20,000 in the coasting trade. The fishing interest, on the east coast, from London as far north as Scarborough, embraced, in the spring of 1860, 1,757 vessels, with a total tonnage of 75,533, and employs 28,079 men and an invested capital of about £1,300,000. The total registered shipping numbers nearly 8,000, tonnage 1,000,000. The aggregate amount of imports and exports is annually over £55,000,000; the former consist of corn, sugar, silk, wool, wood, oil, tea, wine, spirits, tallow, butter, coffee, &c., and the latter mainly of British and Irish produce and manufactures.—The principal manufacture of London is silk, which employs about 116,000 persons, mostly females. The manufacture of beer and porter is of great magnitude. Sugar refining, clock and watch making, the manufacture of mathematical, surgical, and musical instruments, jewelry, gold and silver plate, and other small articles, are extensively carried on. Some of these manufactures, and particularly London-built carriages, enjoy a high reputation. The transactions in English and foreign government stock and in bills of exchange are immense. The exports of gold from London in 1858 amounted to £13,875,390, and of silver to £6,921,260; total £20,796,650. The imports of gold in the 6 months ending Dec. 31, 1858, were £10,998,560, and of silver, £2,756,830; total £13,755,390, or in the year about £27,000,000. It is this remarkable combination of commercial, manufacturing, and financial ac-

tivity which makes London the regulator of the money markets of the world.—The first authentic notice of the existence of London (*Londinium*) occurs in Tacitus. About 100 years after Julius Cæsar's invasion, it was taken by the Romans under Claudius, called Augusta, and placed under a Roman administration. In A. D. 61 the Britons under Boadicea captured and burned the city, which was soon however rebuilt. It is supposed to have remained unprotected by fortifications until the reign of Constantine the Great, who, judging from many coins which have come to light, is believed to have constructed the walls of London and to have erected it into an episcopal see. The walls commenced in the vicinity of the present tower, and their compass was completed by another wall along the banks of the Thames. Gates were added to these walls, and roads laid out which led to different parts of the country. The names of the gates are still preserved in Ludgate, Aldersgate, Moorgate, Bishopsgate, Newgate, and other streets and localities. The great Roman roads Watling street and Ermin street had their termini at the so called London stone. A portion of the stone or Roman *milliarium* still exists, and is inserted in the most prominent part of St. Swithin's church, Cannon street. Under the Saxons, London is believed to have become the capital of the East Saxon kingdom, and to have quickly recovered from the sufferings to which it had been subjected after the departure of the Roman troops from England. Bede calls it even at that early period "a princely town of trade." St. Paul's and St. Peter's, Westminster, were founded almost immediately after the introduction of Christianity. Under Egbert London became the metropolis of the united Saxon monarchies, or of the consolidated kingdom, so that the metropolitan character of London has existed 1,000 years. The Danish invasion was disastrous to the prosperity of London, but it soon recovered under the glorious reign of Alfred. William, to whom the city submitted after the battle of Hastings, granted a charter to it which is still extant. A new charter was given by Henry I. in 1100, which is said to have served as a model for Magna Charta; it restored the privileges which the Londoners had enjoyed before the conquest, and permitted them to elect their own magistrate. In 1191 the chief magistrate was for the first time addressed by the court of aldermen under the title of lord mayor. The first stone of Westminster abbey was laid by Henry III. in 1221. The insurrection of Wat Tyler in 1381 produced a temporary alarm. In the wars of the roses, London sided chiefly with the house of York, in consequence of which the lord mayor and sheriff and a number of aldermen were knighted by Edward IV. after the battle of Barnet (1471). About this time Caxton introduced the printing press. The city, which had already improved considerably, derived great advantage from the suppression of religious houses by Henry VIII.

Intellectual and religious zeal were powerfully fostered by the reformation; educational and charitable institutions were introduced; the refugees of the Low Countries naturalized their industrial arts and manufactures in London; and the prosperity of the city advanced with rapid strides during the reign of Elizabeth. The chief part of the metropolis consisted then and during the reign of James I. of Newgate street, Cheapside, the Poultry, and Cornhill, and the crooked streets and dingy alleys leading from them to the river. Both sides of the Strand, toward Westminster, were flanked with houses. The south river side of the Strand was then the head-quarters of the aristocracy. The other parts of London did not yet exist, excepting from Charing Cross toward Whitehall palace, and to Westminster abbey. There were but few buildings in Lambeth and Southwark, and only a small number of scattered houses from Horselydown to Tooley street. A majority of the corporation took a decided part with the commons during the civil war. After the restoration London began to revive, but the plague, which had already visited it in 1648 and in 1664, again raged in the city from June till the end of Dec. 1665, carrying off nearly 20,000 persons, or $\frac{1}{4}$ of the population. Fire, which had nearly consumed the city in 893 and at various other periods, especially 1077 and 1086, broke out a year after the visitation of the plague, commencing Sept. 2, 1666, in Pudding lane, Monument yard, and ending in Pie corner, Giltspur street, having lasted 4 days and nights, and reduced to ashes $\frac{1}{2}$ of the whole city within the walls. The city was however rebuilt within 4 years. The first stone of St. Paul's was laid in 1675. In 1685 many French Protestants, whom the revocation of the edict of Nantes had driven from France, found an asylum in London, when they settled in Spitalfields, introducing the silk manufactures which have since become of the utmost importance for the city. In the reign of Anne an act was passed (1711) for building 50 new churches, in consequence of the increase of the population. Clerkenwell, Soho, and other streets and districts were then annexed to the metropolis. Street lamps had been used as early as 1416, but the streets were first generally lighted under the reign of Anne. Some additions to London in the reign of George I. were followed by important enlargements during that of George II. Grosvenor square, Westminster bridge, and new streets were then built, and great roads laid out in several directions. Extension and improvement became still more the order of the day under George III. Blackfriars bridge was built, and many new dwellings erected on the Surrey side. The American war caused a suspension of activity, which however after the peace in 1783 was doubly increased. With the increase of trade with this country and other parts of the world, the ground near the water side was soon covered with buildings, and docks were construct-

ed, while the increase of wealth led to a demand for houses in fashionable districts, and squares and streets in the west soon sprung up as if by the spell of magic. From the regency in 1811 dates the astonishing progress of London in the elegance of its parks and new streets. Regent's park was then formed and surrounded with handsome terraces. The movement commenced at the beginning of this century has since advanced with great celerity; and with the new elements of prosperity which California and Australia have infused into commerce, the constant increase of wealth must lead to a corresponding increase in the territory of the metropolis, especially in the regions of fashion in the west, as has been already shown by the success of the new districts of Tyburnia and Belgravia. In 1141 the population of London was estimated at 40,000; in 1841 it was 1,652,902, showing an average increase of 200,000 for each of the preceding centuries. The increase within the first half of this century was 80,000 per year, the population having risen from 900,000 in 1801 to about 2,400,000 in 1851. The actual population in 1801 was 958,863; in 1811, 1,188,815; in 1821, 1,878,947; in 1831, 1,654,994; in 1841, 1,948,417; and in 1851, 2,362,236. The increase between 1801 and 1811 was 179,952, or 18.76 per cent.; between 1811 and 1821, 240,182, or 21.08 per cent.; between 1821 and 1831, 276,047, or 20.06 per cent.; between 1831 and 1841, 298,428, or 17.78 per cent.; between 1841 and 1851, 418,819, or 21.23 per cent.; and between 1851 and 1861, 1,215,853, or 47.24 per cent.—The great associations of London with the history and literature of England invest the streets, particularly those in less modern parts of the town, with an indescribable interest. Hardly any of them can be passed without treading upon the great memories of the past. Some of the streets teem with the remembrances of Oliver Cromwell, Hampden, and Milton, the heroes and poets of civil and religious liberty; others with those of Bacon and Newton, Spenser and Shakespeare, the thinkers and poets of humanity. In the same street (Bread street, Cheapside) where Milton was born, stood the Mermaid tavern, frequented by Shakespeare, Raleigh, and Ben Jonson. Not far from the Cockpit in Charing Cross, where Oliver Cromwell lived for some time, died Spenser, the author of the "Faerie Queen." In Palace yard, Westminster, Sir Walter Raleigh was executed. Down Little Queen street Lord William Russell was led to the scaffold in Lincoln's Inn fields. On Tower hill, the earl of Strafford, Algernon Sydney, and other eminent men were put to death. The whole region of the tower of London abounds with the most terrible reminiscences of English history, and Anne Boleyn, Catharine Howard, and many others who were executed, are buried there. Charles I. was executed in the street facing the banqueting house at Whitehall. Tabard inn, Southwark, was the starting place of Chaucer's pilgrims. In the

Inner Temple lane is the house where Pope and Warburton first met. Fielding wrote his "Tom Jones" in Bow street, Covent Garden, the building now occupied by a court of police. The regions of Fleet street, with the Mitre tavern, where Johnson and Boswell met, and of Temple Bar and the Strand, abound with associations of Dr. Johnson, Oliver Goldsmith, and their contemporaries. The following is an alphabetical list of the more prominent persons associated with the streets of London:

Addison, when a bachelor, lived at 22 St. James's place, St. James's street (the same house in which Mr. Rogers the poet died in 1850), and died in Holland house, Kensington.
Bacon, Lord, born in York house, on the site of Buckingham street, Strand.
Becket, Thomas à, born behind the mercers' chapel in the Poultry.
Bentham, Jeremy, lived in Queen square house, Westminster, looking upon St. James's park—the same house in which Brunel perfected his block machinery.
Blanc, Louis, on his flight from Paris, took up his residence in Piccadilly.
Blücher, when in England in 1814, lived in St. James's place.
Bonaparte family.—Joseph and Lucien Bonaparte lived at 28 Park crescent, Portland place. Napoleon III, while Prince Louis Napoleon, lodged at 8 King street, St. James's square.
Boswell died at 147 Great Portland street, Oxford street.
Bulwer, the novelist and statesman, resides at 1 Park lane.
Bunyan was buried in Bunhill fields.
Burke, Edmund, lived at 87 Gerard street, Soho.
Burnet, Bishop, died in St. John's square, Clerkenwell.
Butler, author of "Hudibras," died in Rose street, Covent garden, and was buried in the churchyard of St. Paul's, Covent garden.
Byron was born at 24 Holles street, Cavendish square, and spent the brief period of his married life at 139 Piccadilly. In his rooms at the Albany he wrote his "Lara."
Campbell, Thomas, had his last London residence at 8 Victoria square, Pimlico.
Canning was born in the parish of Marylebone.
Carlyle, Thomas, resides at 5 Great Cheyne row, Chelsea.
Chantrey died in Eccleston street, Pimlico, corner of Lower Belgrave place.
Charles V. of Spain resided in Blackfriars.
Charles X. of France resided at 79 South Audley street.
Chatham, earl of, born in the parish of St. James's, Westminster.
Chesterfield died at Chesterfield house, Mayfair.
Clive, Lord, died at 45 Berkeley square.
Cornwallis, Lord, was born in Grosvenor square.
Crabbe resided at 81 Bury street, St. James's.
Cromwell, Oliver, lived in Long Acre; in King street, Westminster; in the Cockpit, near the site of the treasury; and at Whitehall palace.
Dickens, Charles, resided for a long time at 1 Tavistock villas, Tavistock square.
Disraeli, Benjamin, resides at 1 Grosvenor gate.
Dryden died at 43 Gerard street, Soho, in the same street in which Burke lived.
Eldon, Lord, lived at 6 Bedford square, and at the W. corner of Hamilton place, Piccadilly, where he died.
Fielding lived in Bow street, Covent garden, in a house on the site of the present court of police.
Fox lived in St. James's place, and afterward at St. Anne's cottage, Hampstead Heath.
Franklin, Benjamin, was employed as a printer in Bartholomew close, West Smithfield, and lived also at 7 Craven street, Strand.
Gainsborough died in the W. half of Schomberg house, Pall Mall.
Garrick died in the centre house of the Adelphi terrace.
Gibbon wrote his defence of his "Decline and Fall" at 7 Bentinck street, Manchester square.
Gladstone lives at 11 Carlton House terrace.
Goldsmith, Oliver, died at 9 Brick court, Temple.
Gray was born at 41 Cornhill.
Guizot resided at 21 Pelham crescent, Brompton.
Hallam resided at 24 Wilton crescent, Belgrave square.
Handel lived and died at 87 Brook street, Grosvenor square.
Harvey, William, lived with his brother in Cockaine house in the city.
Hill, Lord, resided in the large house S. W. corner of Belgrave square.
Hogarth, born in Bartholomew close, Smithfield, died in Leicester square, in the N. half of the present Sablonnière hotel.

Hood, Thomas, born in the Poultry, spent most of his life in London, and was buried in Kensal Green cemetery. Jenner lived at 14 Hertford street, Mayfair. A statue of him is in Trafalgar square.

Johnson completed his dictionary while living at Gough square, Fleet street, and died at Bolt court, Fleet street.

Jonson, Ben, is said to have been born in Hartshorne lane, near Northumberland street, Charing Cross.

Jones, Inigo, was born in or near Cloth Fair, Smithfield, where his father was a cloth worker.

Kean, Edmund, lived at 19 Clarges street, when at the zenith of his fame.

Keats wrote some of his poems on the 2d floor of 71 Cheapside. Kosuth resides at 31 Alpha road, Regent's park.

Lamb, Charles, was born in the Inner Temple, and spent most of his life in London, and the last 6 years of it at Islington, Enfield, and Edmonton. Charles and Mary Lamb's celebrated Wednesday evening parties took place in his chambers in Inner Temple lane.

Lawrence, Sir Thomas, died at 65 Russell square.

Laurel, Archbishop, lived at Lambeth palace.

Leighton, Archbishop, died in the Bell inn, Warwick lane, Newgate street.

Locke dates the dedication of his "Essay on the Human Understanding" from Dorset court, Fleet street.

Louis Philippe resided at Cox's hotel, Jermyn street, and after his flight in 1848 at the palace of Clermont.

Macaulay lived for many years at the Albany, and died on the evening of Dec. 28, 1859, in his residence at Holly lodge, Campden hill, Kensington.

Mansfield, Lord, when only Mr. Murray, lodged at 5 King's Bench walk, Temple.

Marlborough died in Marlborough house, Pall Mall.

Marvell, Andrew, resided in Maiden lane when he refused a bribe from the lord treasurer Danby.

Milton was born in Bread street, Cheapside, and resided in a garden house in Petty France, now 19 York street, Westminster.

Montagu, Lady Mary Wortley, died in Great George street, Hanover square, and was buried in South Andley street chapel.

Moore, Thomas, dedicated in 1806 his "Odes and Epistles" from 27 Bury street, St. James's street; and the advertisement to the 4th number of his "Irish Melodies" in 1811 is dated from the same street.

More, Sir Thomas, born in Milk street, Cheapside, resided at Chelsea. Immediately opposite the present Battersea bridge, and was buried in Chelsea old church.

Neill Gwynn died in a house on the site of 79 Pall Mall.

Nelson resided at 141 New Bond street after the battle off Cape St. Vincent and the expedition to Tenerife.

Newton lived in St. Martin's street, S. side of Leicester square, where his observatory is still visible on the top of the house.

O'Connell, Daniel, lived at 14 Pall Mall.

Orleans, Philippe (Egalité), duke of, lived at 31 South street, Grosvenor square.

Palmerston, Lord, lived in Carlton Gardens for a long time, and now resides at Cambridge house, Piccadilly.

Peel, Sir Robert, died at his house in Frivy Gardens, Whitehall.

Penn, William, born in the house of his father the admiral, on Great Tower hill, on the E. side, within a court adjoining London wall, lived in the last house on the left hand side of Norfolk street, Strand.

Peter the Great resided in a house on the site of the last house on the W. side of Buckingham street, Strand, and frequented the Czar of Muscovy public house, 48 Great Tower street.

Pitt lived in chambers in Old square, Lincoln's Inn, and in the latter part of his life in Hertford street, Mayfair.

Pope is by some authorities supposed to have been born in Lombard street.

Priestley was a resident of Lansdowne house, Berkeley square, when he made the discovery of oxygen.

Reynolds, Sir Joshua, lived at the centre of the W. side of Leicester square.

Richardson lived in Salisbury square, Fleet street.

Rogers, Samuel, lived nearly 60 years and died at 29 St. James's place.

Romilly, Sir Samuel, died at 31 Russell square.

Russell, Lord John, lives at 87 Chesham place, Belgrave square.

Scott, Sir Walter, resided when in London corner of White Horse street, Piccadilly, and at Mr. Lockhart's, 24 Sussex place, Regent's park.

Shakespeare is supposed to have lived on the Bankside, in Southwark, near the Globe theatre, and owned a house in Ireland yard, Blackfriars.

Shelley resided at 41 Hans place, Sloane street.

Sheridan died at 7 Saville row, Burlington gardens.

Siddons, Mrs., lived at 49 Great Marlborough street, died in Siddons house, top of Upper Baker street, Regent's park.

Smith, Sydney, lived in Saville row.

Somers, Lord Chancellor, born in East Smithfield, near the tower (it is said), lived in the large house N. W. corner of Lincoln's Inn fields.

Spenser died in King street, Westminster.

Stael, Mme. de, resided at 80 Argyll street, Regent street.

Sterne died at 41 Old Bond street.

Stratford, the great earl of, was born in Chancery lane.

Swedenborg resided in Great Bath street, Coldbath fields, and was buried in the Swedish church in Ratcliff highway.

Talleyrand resided at the house of the French embassy, N. side of Manchester square.

Thackeray, W. M., resides at 36 Onslow square, Brompton.

Thurlow, Lord Chancellor, died at 45 Great Ormond street, where the great seal was stolen from him.

Turner lived at 47 Queen Anne street, Cavendish square.

Vandyke died in Blackfriars, and was buried in St. Paul's churchyard.

Voltaire, when in London in 1736, resided at the White Peruke in Maiden lane.

Walpole, Horace, lived at 5 Arlington street, Piccadilly.

Walton, Isaac, lived in Chancery lane, 7th house on the left hand from Fleet street to Holborn.

Wellington lived over 80 years in Apsley house.

Wilkes, John, lived in Prince's court, Great George street, Westminster.

Wilkie painted his "Rent Day" at 84 Upper Portland street, and his "Chelsea Pensioners" at 24 Lower Phillimore place, Kensington.

LONDONDERRY, a N. maritime co. of Ireland, province of Ulster, bounded N. by the Atlantic ocean and Lough Foyle, E. by the co. of Antrim and Lough Neagh, S. and S.W. by the co. of Tyrone, and W. by Donegal; area, 810 sq. m.; pop. in 1851, 191,868. In the centre and toward the S. the surface is mountainous, and elsewhere mostly lowland, which is generally fertile. The principal rivers are the Foyle, Bann, and Roe. Agriculture, though improving, is not in a very advanced state. The principal manufacture is the weaving and bleaching of linen. The greater part of the county is held by lease under the Irish society and the 12 London companies to whom it was granted by James I. after the rebellion, whence the prefix of London to the ancient name. The county returns 2 members to parliament, beside 2 for Londonderry city and the borough of Coleraine.—LONDONDERRY, the capital, a city, parliamentary borough, and port, is situated on the left bank of the Foyle, here crossed by a bridge 1,068 feet long, 5 m. above Lough Foyle, and 128 m. N. N. W. from Dublin; pop. in 1851, 19,604. The city is picturesquely built on an oval-shaped hill, the site of ancient Derry, surrounded by walls, beyond which however it has greatly extended. On the summit of the hill stands the cathedral of Derry, 114 feet long and 66 feet wide, with a spire 178½ feet high. The diamond or market place, a quadrangular area, is situated in the centre of the town, and contains the corporation hall; and from the middle of the sides of this 4 principal streets lead to the 4 original gates. A Doric column, surmounted by a statue of the Rev. George Walker, celebrated for his defence of the town in the memorable siege of 1689, was erected in 1828 at a cost of £4,200. Communication by steamers is maintained with Liverpool, Glasgow, Greenock, and Campbellton. LONDONDERRY. I. ROBERT, 2d marquis of. See CASTLEREAGH. II. CHARLES WILLIAM STEWART VANE, 8d marquis of, a British soldier and diplomatist, half brother of the preceding, born in Dublin, May 18, 1778, died in Lon-

don, March 6, 1854. At the age of 15, as ensign of a foot regiment, he accompanied the earl of Moira to the Netherlands, and took part in the campaign of 1794. Subsequently, while attached to the British mission at Vienna, he was severely wounded at the battle of Donauwerth. During the Irish rebellion of 1798 he commanded a regiment of dragoons, and also in the expedition to Egypt under Sir Ralph Abercrombie, in the course of which he was again dangerously wounded. He next commanded a hussar brigade under Sir John Moore in Spain, and covered the retreat of the British army to Corunna with great skill and valor. After a few months' absence he returned to the Peninsula, and until May, 1813, held the position of adjutant-general under Sir Arthur Wellesley, signalizing himself at Busaco, Talavera, Fuentes d'Onoro, Badajoz, and elsewhere. During the campaign of 1814, in which he was made a lieutenant-general, he performed the duties of military commissioner of the armies of the allied sovereigns, and in the same year was appointed ambassador to Austria, having previously exercised similar functions at the court of Berlin. His participation in the congress of Vienna in 1815, as one of the 5 British plenipotentiaries, was the last public act of importance of his life. In 1814 he was raised to the peerage as Lord Stewart; in 1822, on the death of his brother, he succeeded to the marquissate of Londonderry; and in 1823 he was created Earl Vane, having in 1819 contracted a second marriage with the only daughter of Sir Harry Vane Tempest, and assumed the name and arms of Vane. With a view of developing the agricultural and mineral resources of his large estates in Durham, he constructed the harbor of Seaham, one of the most costly and useful works ever undertaken by private enterprise. In politics he was an uncompromising tory. In 1837 he was raised to the rank of general in the British army. He is the author of a "History of the Peninsular War" (4to., 1808-'18), and edited the correspondence of his brother, Lord Castlereagh, which was published in 1850.

LONG, GEORGE, an English scholar, born in Poulton, Lancashire, in 1800. He was educated at Trinity college, Cambridge, where he obtained a scholarship in 1821, and subsequently a fellowship. In 1824 he accepted the professorship of ancient languages in the university of Virginia. In 1826 he returned to London, in order to become professor of the Greek language and literature in the London university. In this office he remained until 1831, when he began to edit, for the society for the diffusion of useful knowledge, their "Journal of Education," which he continued until 1835. From 1832 to 1843 he edited the "Penny Cyclopædia;" and at the conclusion of the 27th volume, the society and publishers (C. Knight and co.) offered their thanks "to the editor, by whose learning, unwearied diligence, and watchfulness, unity of plan has been maintained during 11 years, and error as far as possible avoided."

During this time Mr. Long became a student of law in the Inner Temple, and was called to the bar in 1837. In 1846 he was invited by the society of the Middle Temple to deliver a course of lectures on jurisprudence and the civil law. This office he soon resigned, but in 1849 was appointed professor of classical literature at Brighton college, where he has since remained. Among his works are editions of Cæsar's "Gallic War" and Cicero's "Orations," a "Classical Atlas," and large contributions to Dr. W. Smith's classical dictionaries. He has translated selections from "Plutarch's Lives" (5 vols., 1844), and published in 1850 "France and its Revolutions."

LONG, ROGER, an English clergyman and astronomer, born in Norfolk about 1680, died in Cambridge, Dec. 16, 1770. He was educated at Pembroke hall, Cambridge, of which he became vice-chancellor in 1729, and master in 1738. In 1749 he was appointed Lowndes professor of astronomy, and in 1751 rector of Bradwell in Essex. At his death he bequeathed £600 to his college. He was the inventor of the uranum, a singular astronomical machine for facilitating the study of his favorite science, which may still be seen at Pembroke hall. It is a hollow sphere 18 feet in diameter, and capable of containing 80 persons. The inner surface is covered by a map of that portion of the heavens visible in Britain. The most important of Long's works are: "The Rights of Churches and Colleges Defended" (1731); "Treatise on Astronomy," in 5 books (2 vols. 4to., Cambridge, 1742-'64; 2d ed., 1784); and "Life of Mahomet" (1757), which is prefixed to Ockley's "History of the Saracens."

LONG, STEPHEN H., an American military and civil engineer, born in Hopkinton, N. H., Dec. 30, 1784. He was graduated at Dartmouth college in 1809, subsequently taught school in Germantown, Penn., and in Dec. 1814, was commissioned a lieutenant in the corps of engineers of the U. S. army. After discharging the duties of assistant professor of mathematics at West Point for about a year, he was in April, 1816, transferred to the topographical engineers with the rank of major. During the next 8 years he was employed in a series of explorations of the western frontier, from the northern boundary of Texas to Lake Superior and the sources of the Mississippi, traversing within that period more than 26,000 miles of wilderness, and procuring valuable information respecting those portions of the national domain. An account of an expedition from Pittsburg to the Rocky mountains (of which one of the highest summits was named from him Long's peak) in 1819-'20, from the notes of Major Long and others, by Edwin James, was published in 1823; and in 1824 appeared "Long's Expedition to the Source of St. Peter's River, Lake of the Woods," &c., by W. H. Keating (2 vols. 8vo., Philadelphia). He was subsequently employed for several years in duties connected with the improvement of various western rivers, and between 1827 and 1829 took part in

the construction of the Baltimore and Ohio railroad. He was one of the pioneers of railroad enterprises in the United States, and his "Railroad Manual" (1829) was the first original treatise of the kind published in this country. Subsequently he was much occupied in surveying routes for railroads, and from 1837 to 1840 was engineer-in-chief of the western and Atlantic railroad in Georgia, in which capacity he introduced a system of curves in the location of roads, and a new species of truss bridges, which have been generally adopted in the United States. He has since been almost constantly engaged in explorations and improvements of western rivers, in superintending the construction of hospitals and steam vessels, in surveys of harbors and roads, and in other labors connected with the engineering department of the U. S. army. He now holds the brevet rank of lieutenant-colonel.

LONG ISLAND, an island belonging to the state of New York, between lat. $40^{\circ} 88'$ and $41^{\circ} 6' N.$, and long. 72° and $74^{\circ} 2' W.$; area, 1,682 sq. m.; pop. in 1855, 303,527. It is bounded on the N. by Long Island sound, and on the E. and S. by the Atlantic ocean; the Narrows, New York bay, and the East river, connecting the ocean with the sound, complete the boundary on the W. and N. W. The greater portion of its extent is opposite the S. shore of Connecticut. Several small islands which lie in the adjacent waters are attached to it politically, among which the principal are Shelter (area, 9,000 acres), Gardiner's, Fisher's, and Plumb islands. From Fort Hamilton on the W. to Montauk point on the extreme E. the distance is variously estimated at from 115 to 140 m. The average width is 14 m., and the extreme width 28 m. The coast is deeply indented with numerous bays and inlets, abounding with shell and other fish. A large deep bay, divided into Gardiner's bay, Little Peconic and Great Peconic, extends inland 80 m., and divides the E. end of the island into two distinct parts, the northern terminating at Oyster Pond point, and the southern at Montauk point, about 20 m. further E. Along the S. border is a remarkable bay nearly 100 m. long and from 2 to 5 m. broad, formed by the Great South beach, a narrow strip of fine white sand from $\frac{1}{4}$ m. to 1 m. wide, with occasional openings to the ocean. Jamaica, Hempstead, Oyster, and Huntington bays are toward the western end of the island. The coasts of Long island, being on the track of a vast commerce, have been provided by government with an excellent system of lighthouses, and 80 life-boat stations have been established provided with proper facilities for affording aid to vessels in distress. Though much diversified, the surface presents no great elevations. A ridge of hills extends, with occasional interruptions, from the N. boundary of New Utrecht in the W. nearly to the extreme end of the northernmost eastern branch of the island. The highest of these are Harbor hill, at the head of Hempstead harbor,

and Jane's hill, one of the West hills in the town of Huntington. A number of spurs known under various names proceed from the main range. To the N. of these hills the surface is generally uneven and broken; to the S., remarkably level, with a gradual inclination toward the sea. There are several large tracts of apparently infertile plains, among which the great Hempstead plain toward the W. is most noted. It is about 12 m. long by from 5 to 6 broad, producing naturally only coarse grass; of this tract about 16,000 acres are still used in common. By the application of suitable manures large portions have been put under profitable cultivation during the last few years. The island, which has always been abundantly supplied with wood, still contains large forests from which the deer have not yet been entirely exterminated. The great pine plains commence about 40 m. from the W. end, and continue almost uninterruptedly for about 50 m., occupying for that extent nearly one half of the island. There are many springs and small streams; the largest of the latter, the Peconic, flows into Great Peconic bay after a course of 15 m., in which it furnishes numerous mill seats. Fine natural ponds or lakes abound, and many swamps and marshes are scattered over the surface. Of salt marsh the island is computed to contain 116 sq. m. The soil is generally very fertile and under a high state of cultivation, a large portion of the agricultural industry of Kings and Queens counties being engaged in providing vegetables for the New York market. The climate, owing to the influence of the sea, is more temperate than the same latitude in the interior, the thermometer seldom falling below zero or rising above 90° , the mean temperature being about 51° . There are 3 counties, Kings, Queens, and Suffolk. The principal cities and towns, with their populations in 1855, are: in Kings co., Brooklyn (including since 1854 Wilmsburg and Bushwick), pop. 205,250; Flatbush, 8,280; New Utrecht, 2,730; and New Lots, 2,261; in Queens co., Hempstead, 10,477; North Hempstead, 9,446; Oyster Bay, 8,047; Flushing, 7,970; Jamaica, 5,632; and Newtown, 4,694; in Suffolk co., Brookhaven, 9,696; Huntington, 8,142; Southampton, 6,661; and Southold, 5,676. Among the many public resorts for fishing and sea bathing are Bath, Coney island, Rockaway, Babylon, Fire island, Montauk point, &c. The Long Island railroad passes through nearly the entire length of the island, from Hunter's Point, adjoining Brooklyn on the E., to Greenport; beside this there are the Brooklyn and Jamaica railroad, the Flushing railroad connecting with Hunter's Point, two branches of the Long Island railroad, and horse railroads ramifying through Brooklyn and the surrounding country.—When first discovered, Long island was inhabited by 18 tribes of Indians, of whom there now remain but 200 or 300, mixed with negro blood, and retaining no knowledge of their ancient language. The first settlement was made in 1625 by some French Protestants

from near the river Waall in the Netherlands, under Dutch protection; and immigrants from New England established themselves in different localities soon after. Its name, which it received from the Dutch, was changed by the colonial legislature to that of the island of Nassau, which was never adopted by the people. The E. extremity was claimed by the colonies of New England, and became the subject of frequent disputes until the final extinction of the Dutch authority by the English. During the troubles which preceded the revolution the inhabitants of Long island manifested a strong spirit of patriotism; but the reverses of the American arms, which placed it in the power of the British during the war, suppressed the active coöperation of the people in behalf of independence. After the evacuation of Boston by the British, strenuous efforts were made by Washington to fortify the city of New York and its approaches. Gen. Greene was intrusted with the defence of Long island, in command of a considerable body of troops, many of them raw recruits, and constructed a line of intrenchments and redoubts from Wallabout bay to Gowanus cove, about a mile from the village of Brooklyn. The main works at the former end were on the hill afterward known as Fort Greene, on which the ditch and embankment still existed a few years since, but which is now considerably reduced in dimensions, and laid out as Washington park; on the other extremity, a battery was erected at Red Hook, and a fort on Governor's island, nearly opposite. About 2½ m. from the intrenchments, between them and the S. side of the island, was the range of hills already mentioned, then densely wooded, and crossed by three roads, one, on the right of the works, passing near the Narrows to Gravesend bay, the central one through Flatbush, and the third far to the left through Bedford to Jamaica. Much confusion was created by Gen. Greene falling sick in the midst of his preparations, and the command devolving upon Gen. Sullivan, then just returned from Lake Champlain, and unacquainted with the ground and with Greene's plans. On Aug. 22, 1776, the British landed 9,000 strong at New Utrecht, on Gravesend bay, without resistance. They were commanded by Sir Henry Clinton, assisted by Lords Cornwallis and Percy, Gen. Grant, and Sir William Erskine. Lord Cornwallis, rapidly advancing to the central pass, found it occupied by the rifle regiment of Col. Hand, and, unwilling to risk an encounter, took post at Flatbush. On the 24th Washington visited and inspected the American lines, and appointed Gen. Putnam to their command. On the 25th the British were reinforced by two Hessian brigades under Gen. De Heister, and on the 26th began to carry out their plan of operations, which was to menace the first two passes mentioned, while Sir Henry Clinton with a body of chosen troops was to take possession of the road leading from Ja-

maica to Bedford. While the works were strengthened and other preparations made to resist attack, the pass by Bedford had been neglected, and only visited by an occasional patrol, who on this night failed to discover the approach of the enemy. Gen. Clinton, accompanied by Gen. Howe, the commander-in-chief, and by Lords Percy and Cornwallis, secured the defile and took possession of the heights without molestation or discovery, being guided by a tory of the neighborhood. The advance of Gen. Grant with the left wing along the road by Gravesend and the Narrows was resisted by Col. Atlee with a guard of Pennsylvania and New York militia. He retired fighting until he had fallen back upon Lord Stirling, who with two regiments had hastened to his relief. Here active firing was kept up by both sides without an attempt at a general action. At the same time De Heister opened a cannonade from Flatbush upon Col. Hand and his riflemen, but without offering to advance, and the guns of the British men-of-war were brought to bear upon the battery at Red Hook. These, however, were mere diversions. Clinton having descended the pass opened his guns on the Americans, and at this signal of his success De Heister ordered the redoubt, of which Gen. Sullivan had taken the command, to be stormed; but the latter, who found his left flank engaged and himself in hazard of being surrounded, ordered a retreat, not soon enough however to escape the light infantry of the British, who drove him back upon De Heister and his Hessians. The Americans still fought with desperate valor, a large body cutting their way through to the intrenchments, the rest who were not killed either escaping among the hills or surrendering as prisoners. Among the latter was Gen. Sullivan. On hearing the cannonade of Clinton, Lord Stirling, who had maintained his position in front of Gen. Grant, endeavored to return to the lines, but found himself cut off by Cornwallis. He gallantly attacked the enemy, and with such determination that the British held their ground only by the assistance of reinforcements, when Stirling, seeing no further hope, surrendered. The enemy, having forced all the approaches, were now before the American works, and soon proceeded to intrench themselves and plant their batteries. With this formidable force before him, and with indications that the British fleet intended moving up the river so as to cut the force in Brooklyn entirely off, Washington, who was now in personal command, determined to recross with the American army. This retreat was effected on the night of the 29th with complete success. Long island from this time until the close of the war remained in the possession of the British. The whigs were subjected to much ill usage, and a partisan warfare between the tories and the whigs from Connecticut was kept up during the greater part of that period.

LONG ISLAND SOUND, a large body of water lying between Long island and New

York and Connecticut, about 110 m. long, and varying from 2 to 20 m. wide. On the W. it is connected with the Atlantic by a strait called the East river, New York bay, and the Narrows, and on the E. by a narrow passage called the Race. The principal rivers flowing into the sound from the mainland are the Housatonic, Connecticut, and Thames. It is in the route of a very large and important trade between the city of New York and the East, and is navigated by numerous regular lines of packets and steamers. There are 15 light-houses on its coasts.

LONGET, FRANÇOIS ACHILLE, a French physiologist, born in St. Germain-en-Laye in 1811. In 1838 he began to devote himself exclusively to anatomy, and especially to the nervous system, and in 1843-'6 published a *Traité d'anatomie et de physiologie du système nerveux de l'homme et des animaux vertébrés*, which was followed by a *Traité complet de physiologie* (1850-'55). In the latter work he follows vital development through the whole range of zoology, and confirms by many new experiments the discoveries of Sir Charles Bell relative to the distinct functions of the nerves. He has also devoted much time to investigating the laws of nervous action, the irritability of muscular fibres, and the action of electricity on the nerves. He experimented much with Matteucci on this last subject, the results of which were published in 1840. He opposes the so called electro-nervist school, holding that irritability is a property inherent in the living muscle, on which electricity acts only specially and exhaustively. He has also made experiments on the action of sulphuric ether, and in acoustics. He has been a member of the French academy of medicine since 1844.

LONGEVITY. See AGE.

LONGFELLOW, HENRY WADSWORTH, an American poet, born in Portland, Me., Feb. 27, 1807. He is the son of the Hon. Stephen Longfellow, for many years an eminent member of the bar in that city. At the age of 14 he entered Bowdoin college, where he was graduated in 1825. During his academic course he gave evidence of the abilities which have since gained him such high distinction both as a scholar and a poet. Among his productions at this period may be mentioned "Hymn of the Moravian Nuns," "The Spirit of Poetry," "Woods in Winter," and "Sunrise on the Hills." After leaving college, he entered the office of his father with some vague intention of studying law, but soon relinquished it for a more congenial occupation. Having been appointed professor of modern languages and literature at Bowdoin college, with the privilege of residing some years abroad for observation and study, he gladly accepted the office, and in 1826 sailed for Europe, passing that year in France and the next in Spain. Italy and Germany employed two years more. On his return to the United States in 1830, he entered upon the duties of his professorship, and held it for 5 years. Dur-

ing this time, in his contributions to the "North American Review," in his translation of the *Coplas de Manrique*, printed in 1833, and in his "Outre-Mer, a Pilgrimage beyond the Sea," published in 1835, he exhibited his desire to familiarize the cultivated mind of America with the national literature and national character of European countries. In 1835, on the resignation of Mr. George Ticknor, he was appointed professor of modern languages and belles-lettres in Harvard college; and after passing that year and the next in a tour through Denmark, Sweden, Holland, Germany, and Switzerland, he for 17 years performed the duties of his office to universal satisfaction. In 1854 he resigned, and has since resided at Cambridge. In 1839 he published his exquisite prose romance of "Hyperion," and in the same year his "Voices of the Night," which first gave him an extended reputation as a poet. These were followed by "Ballads and other Poems" (1841); "Poems on Slavery" (1842); "The Spanish Student" (1843); "Poets and Poetry of Europe" (1845); "The Belfry of Bruges and other Poems" (1846); "Evangeline," perhaps his greatest work (1847); "Kavanagh," a novel (1849); "Seaside and Fireside" (1850); "The Golden Legend" (1851); "The Song of Hiawatha" (1855), his most popular work, judged by the immense circulation it has attained; and "The Courtship of Miles Standish" (1858). A number of his poems, scattered over numerous periodicals, still remain uncollected in a permanent form. The wide range of Mr. Longfellow's studies at an early period of life, as well as his introduction to the picturesque and quaint features of society and manners in foreign nations, has served to give a certain cosmopolitan character to the productions of his pen. As a translator, he is singularly happy in transfusing not only the ideas, but the spirit of his originals, into apt and expressive diction; as a critic, whether commenting on character or literature, he is the genial interpreter, rather than the censorious judge; and as a poet, he appeals to the universal affections of humanity, by thoughts and images derived from original perceptions of nature and life. His fellow-feeling with his kind gives him easy admission to the common heart. Averse both by temperament and habit to every thing harsh, bitter, disdainful, or repellent, there is no element in his poetry to call forth an ungracious or discordant emotion. It is always tolerant and human, kindled by wide sympathies, and with a tender sense of every variety of human condition. Mr. Longfellow combines in a rare degree the sentiment of the artist with the practical instincts of the man of the world. His thoughts are uniformly lucid and transparent, and never clouded by fanciful speculations. The clearness, simplicity, and force of his leading conceptions leave the impression of unity even on his longest poems. However vivid his imagery, it never seduces the attention from his main idea. Without attempting to represent the depths of passion, in his own sphere of feeling he is a

genuine master, and the purity, sweetness, and refinement with which he delineates the affections of the heart, make him the most welcome of visitants at the domestic fireside. Though not destitute of the creative and shaping faculty, the best expression of his imagination is perhaps to be found in the subtle essence of beauty which pervades his writings, and seems to form the natural atmosphere of his mind. His susceptibility to the historical associations of Europe lends a peculiar charm to his poetry. The antiquities of Nuremberg and Bruges make but a faint impression on the Bavarians and Belgians who grow up in the shade of the quaint town hall, or within the sound of the lofty belfry; but they cast a spell over the imagination of the poet, and haunt him with perpetual visions of romance.—Mr. Longfellow's works have passed through repeated editions both in this country and in England, and have called forth some of the most admirable specimens of contemporary art in their illustration.

LONGFORD, a central co. of Ireland, province of Leinster, bounded N. by Leitrim and Oavan, E. and S. by Westmeath, and W. by Roscommon; area, 421 sq. m.; pop. in 1851, 82,350. The Shannon borders the county for about 50 m. Its principal lake is Lough Gownagh. Grazing farms are numerous, and large quantities of butter are made. Linens and coarse woollens are manufactured. It returns 2 members to parliament. Capital, Longford.

LONGHI, GIUSEPPE, an Italian engraver, born in Monza, near Milan, Oct. 13, 1766, died in the latter city, Jan. 2, 1831. Among his principal works are the "Vision of Ezekiel," after Raphael; the Magdalen of Correggio; the *Madonna del lago*, after Leonardo da Vinci; "Galatea," after Albano, &c. He also engraved fine heads of Napoleon I., Washington, Michel Angelo, the doge Dandolo of Venice, &c. Among his masterpieces are the plates known as the *Fasti di Napoleone il Grande*, after the designs of Appiani. His biography was published by Sacchi in Milan in 1831, and by Barretta with comments on his works in 1837.

LONGINUS, DIONYSIUS CASSIUS, a Greek critic, born at Athens, or at Emesa in Syria, about A. D. 213, executed at Palmyra, A. D. 273. He studied under his uncle, Phronto of Emesa, a teacher of rhetoric at Athens, visited many countries, heard the lectures of the philosophers Ammonius Saccas and Origen, made himself familiar with the works of Plato, and, having settled at Athens, opened a school of philosophy, criticism, and rhetoric. Longinus subsequently removed to the East, and having been invited to the court of Zenobia, queen of Palmyra, he became not only her literary instructor, but also her principal political counsellor. Zenobia was desirous of throwing off the Roman yoke, and making good her right to supreme sovereignty by force of arms. The Attic philosopher sanctioned her designs, and on the capture of Palmyra was put to death by order of the emperor Aurelian. Longinus was the greatest

philosopher, critic, and writer of his age. The doctrine of the universal influence of soil and climate on the intellectual capacities and on the civilization of mankind is especially due to him. The only important fragment of his voluminous works now extant is a portion of his celebrated treatise "On the Sublime." The first edition of this fragment is that of Robortello (Basel, 1554), the latest and best that of Morus (Leipsic, 1769-73). It has been translated into English by William Smith (London, 1739), by M. Carew (Dublin, 1834), and by W. T. Spurdens (Norwich, 1836). Complete editions of all his extant writings were published at Leipsic in 1809, at Oxford in 1820, and at Paris in 1837.

LONGITUDE, in geography, an arc of the equator included between the meridian of a place and the meridian whence the degrees are counted, which is usually called the first meridian. The ancient geographers drew the first meridian through Ferro, the westernmost of the Canary islands, and they are still followed by the geographers of Germany and eastern Europe. The English call the first meridian that which passes through Greenwich; the French, Paris; the Spaniards, Madrid. The inhabitants of the United States use Greenwich for geographical purposes, although there is a desire with a few to use some place within their own boundaries.—An easy method of ascertaining the longitude at sea had been wanted since the improvements in navigation, and, after the discovery of the quadrant by Hadley and Godfrey, was the thing most desired to make navigation perfect. When deduced from the course and the distance, as was then the custom, the mariner had but little trust in his own work; and as late as 1820 vessels at sea on speaking each other never omitted the inquiry: "What is your longitude?" a common sympathy also causing them on "heaving in sight" to steer toward each other. Almost every method of determining the longitude depends on the obtaining the difference of time between your first meridian and that which passes through the place where you are; the time at the latter can be easily obtained by means of altitudes of the sun or other heavenly bodies, but the great difficulty is to find the time elsewhere, the difference of time being one hour to 15° of longitude. John Werner was the first to recommend the use of lunar distances for this purpose (1514); but at that time there were neither lunar tables nor instruments for measuring a distance between the moon and a star. Gemma Frisius was the first to suggest the use of time-keepers (1530), but the art of watch-making was then in its infancy. The great importance to navigation of determining the longitude induced various governments to offer rewards for some practical method. Spain offered 1,000 crowns for its solution as early as 1598, and the states of Holland soon after 10,000 florins; but it was not until 1714 that encouragement was offered in Great Britain, when an act was passed in parliament allowing £2,000 toward making experiments, and offering a re-

ward to the person who should discover the best means of determining the longitude at sea, proportioned to the degree of accuracy that might be attained by such discovery. The result was the invention by John Harrison and the gradual perfection of the chronometer, which is now in general use, and to which alone we are indebted for the shortening of passages at sea, as by its use vessels can steer as direct for port as the ocean and winds will allow without fear of falling to leeward as formerly. (See CHRONOMETER, and HARRISON, JOHN.) When the final award was made to Mr. Harrison, the acts concerning longitude were repealed, except so much as related to the publishing of the nautical almanac and other useful tables. It was also enacted that any person who should discover a method for finding the longitude by means of a timekeeper the principles of which had not previously been made public, should be entitled to a reward of £5,000, if after certain trials made by the commissioners the said method should enable a ship to keep her longitude during a voyage of 6 months within 60 geographical miles or a degree of a great circle, to £7,500 if within 40 geographical miles, and to £10,000 if within 30 geographical miles. If the method be by improved astronomical tables, the author becomes entitled to £5,000 when they show the distance of the moon from the sun and stars within 15" of a degree, answering to about 7' of longitude, after allowing half a degree for errors of observation and under certain restrictions, and after comparison with astronomical observations for a period of 18½ years, during which the lunar irregularities are supposed to be completed. The same rewards were likewise offered to any person who should discover any other method of determining the longitude at sea with the accuracy above mentioned. At that period timekeepers were expensive and less to be depended on than at the present day; they could easily be consulted, but prudent mariners were cautious, and the motion of the heavenly bodies was more to be trusted. The eclipses of Jupiter's satellites, although answering well on land for determining longitude, could not be observed at sea on account of the ship's motion, and the more practical method of observing lunar distances for this purpose was adopted, Dr. Maskelyne, the astronomer royal, being the first to introduce them into use. The difficulties which had attended this method when first suggested were now removed. Prof. Mayer of Göttingen had formed lunar tables sufficiently correct to induce the commissioners of longitude to promote their practical application by the annual publication of the nautical almanac, commencing in 1767, and proper instruments for observing lunar distances had come into general use. The method of ascertaining the longitude at sea by lunar observations was followed until the great perfection with which chronometers were made caused it to be neglected.—The last discovered and most accurate of all methods of determining

differences of longitude is by the use of the electro-magnetic telegraph. Capt. Charles Wilkes, U. S. N., is entitled to the credit of having made the first attempt in that way, soon after the wires were placed between Washington and Baltimore; since that time the method of recording transits on a chronographic register by means of a galvanic circuit has been introduced, and in connection with telegraphic wires enables remote observers to record transits of the heavenly bodies simultaneously and with a degree of accuracy almost incredible. This method is called in Europe the American, but it may with greater propriety be called the U. S. coast survey method, as it had its origin and was perfected in that service.

LONGLAND, ROBERT. See LANGLANDE.

LONGMAN. I. THOMAS, the founder of the English publishing house of that name, born in Bristol in 1699, died in London, June 18, 1755. In 1716 he was apprenticed to John Osborn, a stationer and bookseller of London, with whom, having considerable means of his own, he entered into partnership in 1725, under the title of J. Osborn and T. Longman, at the "Ship and Black Swan" in Paternoster row, now known as No. 89, and still occupied in the same business by his kindred and successors. The chief publications in which he was concerned were Chambers's "Cyclopædia of Arts and Sciences," the precursor of the elaborate compendiums of information, bearing the name of cyclopædias, which have appeared in Europe and America during the last 100 years, and Johnson's "Dictionary," of which latter work he was one of the 6 original proprietors. He was an amiable and upright man, and amassed a fortune by his business. II. THOMAS, nephew of the preceding, born in London in 1731, died at Hampstead, Feb. 5, 1797. He was taken into partnership by his uncle in 1754, and after the death of the latter succeeded to the business. He was largely concerned in the provincial trade, and was one of the first to export books to America, a branch of his business to which he gave much attention. He published several enlarged editions of Chambers's "Cyclopædia." III. THOMAS NORTON, son of the preceding, born in London in 1771, died at Hampstead in 1842. He became a partner with his father about 1792, the firm being then one of the largest in the city, both as publishers and booksellers, and during the 50 years that he remained connected with it greatly extended its operations and enhanced its reputation. Various partners were from time to time admitted into the house, but during nearly the whole of the period above indicated Thomas Norton Longman remained at its head. At the commencement of the present century the Longmans were the proprietors of the valuable copyright of Lindley Murray's "English Grammar," and about the same time issued some of the first poems of Wordsworth, Coleridge, and Southey. They continued for many years to publish for Wordsworth, and with Southey established a business

relation which lasted until the death of the latter. They also published Scott's "Lay of the Last Minstrel" and several of the Waverley novels, and subsequent to 1811 were the exclusive publishers of Thomas Moore's works, with the exception of his "Life of Lord Byron," issued by Murray. Among other eminent authors they have introduced to the public are Herschel, Sir James Mackintosh, Macaulay, and McCulloch. Their miscellaneous publications comprise Todd's edition of Johnson's dictionary, Flaxman's compositions, Kirby and Spence's "Introduction to Entomology," Britton's "Cathedral Antiquities," Mrs. Hutchinson's "Memoirs," Watt's "Bibliotheca Britannica," Malte-Brun's "Geography," the latter in connection with Adam Black of Edinburgh, and other substantial and standard works. In 1826 they became part proprietors with Black of the "Edinburgh Review," a connection still subsisting, and between 1829 and 1846 published the 133 volumes of Lardner's "Cabinet Cyclopædia." Another important enterprise of the house was the reconstruction of the old Chambers's "Cyclopædia," which under the editorship of Dr. Abraham Rees, who had conducted a previous edition to a successful issue, was expanded into a work in 39 vols. 4to., with 6 vols. of plates (1802-'19). Mr. Longman was a man "with a heart of his own," as Southey once observed of him, well known for his liberality and integrity, for the amenity of his manners, and the consideration with which he treated the many eminent literary men with whom he sustained business relations. His sons, THOMAS and WILLIAM, have succeeded him in the firm, which is now known under the style of Longman, Green, Longman, and Roberts, and is one of the largest houses in England.

LONGSTREET, WILLIAM, an American inventor, born in New Jersey in the 2d half of the 18th century, died in 1814. He removed to Georgia, and in 1790 wrote a letter to Thomas Telfair of Savannah asking his assistance in raising the means to construct a boat to be propelled by steam. This letter was published in the Savannah and Augusta newspapers, but funds were not immediately obtained, though he stated his entire confidence in the success of his scheme. He was subsequently furnished with the necessary means for experiment, and constructed a small model boat, upon a plan very different from Fulton's, which went on the Savannah river against the stream at the rate of 5 miles an hour. Cotton had previously been ginned by two rollers, not quite one inch in diameter, which caught the fibres, pressed out the seed, and delivered the clean cotton on the other side, where it was taken by the ginner's hand, and deposited in a bag attached to his person. Longstreet invented and patented the "breast roller," moved by horse power, which entirely superseded the old method. The inventor set up two of his gins in Augusta, which were propelled by steam, worked admirably, and promised him a fortune. They

were, however, destroyed by fire within a week. He next erected a set of steam mills near St. Mary's, Ga., which were destroyed by the British in an invasion in the war of 1812. These disasters exhausted his resources and discouraged his enterprise, though he was confident that steam would soon supersede all other motive powers.—AUGUSTUS BALDWIN, son of the preceding, an American jurist and author, born in Augusta, Ga., Sept. 22, 1790. He was early sent to school, but made little progress in study, and was more expert as a cotton picker, a wrestler, and a marksman. His mother, however, kept him resolutely to his tasks, and, becoming at length associated at school with George McDuffie, the influence of the latter first gave him a relish for books. He was graduated at Yale college in 1813, began the study of law at Litchfield, Conn., and was admitted to practice in Georgia in 1815. In 1821 he represented the county of Greene in the legislature; in 1822 he was made judge of the superior court of Ocmulgee circuit; and in 1824 was a candidate for congress with every prospect of success, when he withdrew from the canvass in consequence of the death of a child. This event deeply impressed him with religious feeling, and it was his custom from that time to open his court with prayer. Declining reflection to the bench, he returned to the bar, and was especially distinguished for his efforts and successes in criminal cases. In 1838 he entered upon the ministry of the Methodist Episcopal church, and was stationed in 1839 in Augusta, which was then visited with unusual malignity by yellow fever, but he did not leave his post. In that year he was elected president of Emory college, which office he held till 1848, when he was invited to the presidency of Centenary college, La. This position he soon exchanged for the presidency of Mississippi university, which he resigned in 1856, designing to retire to private life. But in the following year he accepted the presidency of the South Carolina college, a station which he continues to hold (1860). From an early period of life he was accustomed to write for newspapers, magazines, and reviews, and many of his speeches before literary societies, charges to juries, and sermons have been published. His inaugural address on assuming the presidency of Emory college, his baccalaureate to the graduating class of the South Carolina college (1858), and a sermon on infidelity before the young men's Christian association, are among his best performances. He extended his reputation by his "Letters to Clergymen of the Northern Methodist Church" on the subject of slavery, by his speech in the convention at Louisville, Ky., for organizing the southern Methodist church, by his "Letters from Georgia to Massachusetts," and by an able review of the decision of the supreme court in the case of *McCulloch vs. the state of Maryland*. His miscellaneous writings include many of a humorous character. The first of his publications was a letter purporting to come from two

convicts, under sentence of death, who had broken gaol and escaped. His peculiar vein of humor is conspicuous in the "Georgia Scenes," a volume of sketches, which has passed through numerous editions. Many of his papers in periodicals, as the "Magnolia Magazine," the "Southern Literary Messenger," and the "Methodist Quarterly," have not been collected. A novel from his pen, entitled "Master William Mitten, or the Youth of Brilliant Talents who was Ruined by Bad Luck," has appeared serially in the "Field and Fireside," a literary journal of Georgia, and is about to be reproduced in a volume.

LONGUEVILLE, ANNE GENEVIÈVE DE BOURBON, duchess, a French beauty and politician, born Aug. 29, 1619, died April 15, 1679. Her father, Henry II., prince of Condé, was prisoner in the chateau of Vincennes at the time of her birth. Her brothers were the great Condé and the prince of Conti. Her mother, a member of the Montmorency family, imparted to her strong sentiments of piety, but her education was neglected. When after some hesitation she yielded to the request of her friends and attended a court ball, her beauty and remarkable personal traits created a sensation which tempted her to become a regular habituée of the royal circle. The prince de Joinville, to whom she had been betrothed, having died in the flower of his manhood while in Italy, she was in 1642 prevailed upon to bestow her hand upon the duke de Longueville, a widower who was double her age, and whose former mistress, Mme. de Montbazon, caused great annoyance to the duchess by accusing her of a love intrigue with Coligni, for which at that time there does not seem to have been any foundation. The duke was sent to Münster in 1645. During his absence from Paris, the duchess occasionally saw the duke de La Rochefoucauld (prince of Marsillac); and it being reported that she was not indifferent to his attentions, the duke de Longueville caused his wife to join him in Westphalia, where she remained till 1647, following with interest the negotiations of the treaty of peace of Münster, and imbibing a fondness for politics, which on her return to Paris she displayed most actively in the part which she took in the Fronde. Her principal source of inspiration, however, in throwing herself with the whole genius and impetuosity of her ardent but disinterested nature into that movement, was her love for La Rochefoucauld, one of its chief leaders. Among others who joined it were her brother Conti and the duke de Bouillon; but as it was intimated that they were both wavering in their revolutionary zeal, Mme. de Longueville was detained in the Hôtel de Ville as hostage for her brother, and Mme. de Bouillon for her husband. While there, in the night of Jan. 26, 1649, the duchess gave birth to a son (Charles, who became a noted gallant, and was killed in the campaign against Holland in 1672), of whom La Rochefoucauld was supposed to be the father. In order to punish the duchess, her brothers and

husband were arrested by order of Anne of Austria, the regent, in 1650; but the brave woman persisted in her resistance to the court, and after failing to shake the loyalty of the people of Normandy and barely escaping with her life on her flight from Dieppe, she gained Rotterdam and repaired to the citadel of Stenay in Flanders, of which she took the command, and succeeded in making Turenne, whom she met there, join the Fronde and accept the assistance of the king of Spain in levying troops against France. After the conclusion of this alliance, Mme. de Longueville endeavored to reconcile herself with the government by throwing the culpability of her conduct upon Mazarin. Her husband and brother were set free in the beginning of 1651, when she went to Paris; but declining to remain with the former, who was firm in his loyalty to the king, she set out on a new revolutionary expedition to Bordeaux, in company with La Rochefoucauld, the duke de Nemours, and her brothers Condé and Conti. Dissensions however broke out between her and the last named. Bordeaux opened negotiations with the duke de Vendôme. A general amnesty was proclaimed in 1653, after which the duchess returned to private life. Afflicted by the loss of her mother, who had died in 1650, and by the desertion of her lover, for whom she retained a lively affection, notwithstanding his egotism and indifference, and in spite of her temporary intimacies with the duke de Nemours and others, and baffled in her schemes against the court, which, after all, she had cherished more for her lover's than for her own sake, she resolved to renounce the world. But after having spent some time in various convents, she was again attracted by the pleasures of society; and while in this unsettled state of mind, she accepted an invitation of her husband to rejoin him in Normandy. The duke died in 1663, and the duchess now devoted herself almost entirely to a religious life. She was called the "mother of the church," and her influence in Rome was said to have secured for the Jansenists the so called peace of Clement IX. (1668). The latter part of her life was darkened by the loss of her son, and spent in the Carmelite convent of Paris in the most stringent observance of religious duties and in the practice of charity. Her death was even affirmed to have been either voluntary, or at all events hastened by the influence of an abstemious and penitential life upon her health. Although not learned herself, she could appreciate the genius of those who were, as is attested by her letters to Chapelain, Soudéry, and above all to the Port Royalists. Cousin, in his interesting work on *Madame de Longueville* (6th ed., Paris, 1859), calls her "the soul of the Fronde."

LONGUS, a Greek sophist, who is supposed to have lived about the close of the 4th or the beginning of the 5th century A. D. Concerning his history nothing is known. He was the author of a pastoral romance entitled "The Pastorals of Daphnis and Chloe," of which the

best editions are by Villoison (Paris, 1778) and Passow (Leipzig, 1811). Villemain, in his work *Sur les romans Grecs*, compares Longus to Bernardin de St. Pierre; and Alexander von Humboldt says of him, that in his pastoral romance the tender scenes taken from human life greatly excel his expression of the sensations awakened by the aspect of nature.

LONGWORTH, NICHOLAS, an American wine manufacturer and horticulturist, born in Newark, N. J., Jan. 16, 1782. In his youth he passed several years in South Carolina in the capacity of clerk in the store of an elder brother; but finding the climate unfavorable to his health, he returned home and commenced the study of the law. At the age of 21 he emigrated to the then remote and unimportant settlement of Cincinnati, where, under the instructions of Jacob Burnet, one of the ablest lawyers in the North-West territory, he was fitted for the bar. Conceiving that Cincinnati was destined to be an important centre of commerce and manufactures, he contrived, out of the slender earnings of his professional practice, to purchase considerable tracts of adjoining land, which have long since been covered by the rapidly increasing city. After about 25 years' experience at the bar he retired from professional life in order to devote himself to the management of his landed property. To the cultivation of the grape, with a view of manufacturing wine, he also gave much attention, though at first with little success, having adopted the erroneous notion of the early American vine growers, that foreign plants were alone to be relied upon. He had imported many different species from every vine-growing country in Europe, before the idea occurred to him to try those indigenous to the United States. About 1828 he commenced the experiment, and has ever since been endeavoring to introduce such native vines or their seedlings as would prove applicable for his purpose. Among the results of his labors has been the production of wine from two species, the Catawba and the Isabella, which has now a high marketable value, as well as of other varieties of equal promise, but whose reputation is not yet fully established. He has necessarily been largely engaged in the manufacture of wine, and has planted upward of 200 acres of vineyards, beside establishing a large wine house in the vicinity of Cincinnati, where the raw juice is purchased of the vine dressers and converted into the several varieties of wine known to commerce. As a horticulturist Mr. Longworth is favorably known by his experiments on the sexual character of the strawberry, with reference to the productiveness of the plant.

LÖNNROT, ELIAS, a Finnish philologist, born in Sammati, in the district of Helsingfors, April 9, 1802. The son of a poor tailor, his early education was very limited. At the age of 18 he entered a druggist's shop, and in 1822 he was admitted to the university of Åbo. He became M.D. in 1833, and in 1853 was called

to succeed Castrén as professor of Finnish literature at the university of Helsingfors, a post which he still holds (1860). For an account of his literary labors, see FINLAND.

LOO CHOO ISLANDS (*Lieu Khieu* in the language of the natives), a group in the Pacific ocean, dependent in some degree on both China and Japan, between lat. 24° and 29° N., and long. 127° and 129° E. The number of islands is said to be 36, and they lie at considerable distances from each other. Great Loo Choo, the principal and much the largest island, is the southernmost of the group, and is about 65 m. in length by 15 in average breadth, with an area of about 1,000 sq. m. It extends from N. E. to S. W., and is intersected by a range of hills, the highest summit of which is 1,100 feet above the sea. The general surface rock is argillaceous, either compact or shaly, and is intersected at frequent intervals by dikes or ridges of secondary limestone. The shores of the island are green and beautiful, diversified with groves and fields of the freshest verdure, resembling the richest scenery of England. The crests of the hills are crowned with woods of cedar or pine, while their slopes are covered with gardens and fields of grain. The principal seaport is Napa, which stands at the bottom of a deep bay near the S. W. point of the island, and is a town of considerable size. Shoodi, the capital and residence of the king, is a short distance inland from Napa, and is about a mile in length. It contains a massive castle, built of large blocks of limestone, of excellent masonry. The private dwellings are mostly constructed of bamboo, and the houses and also the streets and gardens are kept remarkably neat and clean. Among the minerals of Loo Choo are iron, coal, and sulphur, and it is said that mines of copper and tin exist. The chief vegetable productions are rice, millet, sweetpotatoes, sugar, cotton, tobacco, indigo, and tea; among the fruits are bananas, pineapples, oranges, peaches, and plums. Fowls, ducks, geese, pigs, goats, and neat cattle are abundant, and there is a small but strong and active breed of horses. Wild boars are found in the forests. Sugar and saki, an intoxicating liquor distilled from rice, are exported to Japan. Irrigation is well understood, and agriculture diligently and successfully conducted, and very large products are drawn from the fertile soil under a singularly genial climate. The manufactures of the islanders are paper, grass cloth, coarse cottons, pottery, lacquered ware, tiles, pipes, hair pins, and baskets. The trade is entirely with Japan, from which country each year about 40 junks arrive of 450 tons each. One or two Loo Chooan junks are sent annually to China with tribute. The population, which appears to be very dense, is a mixture of Chinese and Japanese, the latter element greatly preponderating; and the language is akin to the Japanese, though the literature and civilization are Chinese. In complexion the Loo Chooans are dusky olive, with black eyes and hair. Their system of education is Chinese, and their books

are in the ordinary Chinese character. The Japanese character, however, is also in use. Their religion is a mixture of Confucianism and Buddhism, with some superstitions peculiar to themselves. The government appears to be in the hands of an aristocracy consisting as in China of the literary class, but is nominally administered in the name of a king, who in 1853 was represented as a boy 11 years old. Commodore Perry, however, who visited the islands in that year, distrusted the very existence of such a potentate, and believed the chief magistrate was a governor appointed by the Japanese and controlled by Japanese spies. He found reason to believe that there was a Japanese garrison in Napa, though no soldiers were seen during his visit. The population is divided into classes, and the distinctions of rank are indicated as in China by the costume, and chiefly by the hair pin. The crown of the head to the extent of 2 or 3 inches is shaved, and into the vacant space the residue of the hair is all drawn and plaited into a circular form with a comb. Two large hair pins are then passed through the mass to keep it in place, and the front end of the lower pin is finished with a head in the form of a star made of gold, silver, brass, lead, or pewter. The different metals indicate the rank of the wearer. The lower class generally wear brass, and the very poorest lead or pewter. The poor are greatly oppressed, and are in a very abject condition, the chief part of their earnings going to support the literary class in idleness. Great respect is shown for the dead, and elaborate and costly tombs of stone form a conspicuous feature in the landscape.—The first account of the Loo Chooans which reached Europe was written by a learned Chinese in the early part of the 18th century, whose narrative was translated and published by the Jesuit Gaubil in the *Lettres édifiantes*. The squadron which conveyed the British ambassador Lord Amherst to China in 1816 touched at Loo Choo, and Capt. Basil Hall, who commanded one of the vessels, and Mr. McLeod, the surgeon of another, published accounts of their visit, which attracted great attention by representing the islanders as living in a sort of golden age of simplicity, innocence, happiness, and peace. They were described as without weapons, ignorant of money, docile, tractable, and honest, scrupulously obedient to their rulers and laws, and as loving one another too well to do harm or show unkindness. For a time these representations were received without question or suspicion in Europe. It appears, however, from Capt. Hall's journal, that they were not credited by Napoleon Bonaparte, to whom he related them during a visit to St. Helena in 1817 on his return from China. "No arms!" said Napoleon, clenching his fist and raising his voice; "how then do they fight?" "I could only reply," says Capt. Hall, "that, as far as we had been able to discover, they had never had any wars, but remained in a state of internal and external peace." "No wars!" cried Napo-

leon, in a scornful and incredulous manner. "In like manner," continues Capt. Hall, "but without being so much moved, he seemed to discredit the account I gave him of their having no money, and of their setting no value upon our gold and silver coins." Subsequent investigations, and particularly those of Commodore Perry, have shown that Napoleon's incredulity was well founded, and that the Loo Chooans, though amiable and pacific, are not greatly different from other people. They are cunning and deceitful, and have arms in their possession, though they endeavor to conceal them from visitors. "As to money," says Commodore Perry, "they know the value of gold and silver very well, and proved themselves to be somewhat 'smart' in the matter of exchange when the disbursing officers of the squadron came to settle with them, and showed no reluctance to take our eagles and half eagles." Loo Choo during the last 50 years has been frequently visited by exploring vessels, but nothing was known of the interior of the island till the visit of Commodore Perry in May, 1853, when it was traversed in various directions by a party, among whom was Mr. Bayard Taylor, who in his "India, China, and Japan" thus describes it: "The island is one of the most beautiful in the world, and contains a greater variety of scenery than I have ever seen within the same extent of territory. The valley and hillsides are cultivated with a care and assiduity which puts even Chinese agriculture to shame; the hills are crowned with picturesque groves of the Loo Choo pine, a tree which the artist would prize much more highly than the lumberman; the villages are embowered with arching lanes of bamboo, the tops of which interlace and form avenues of perfect shade; while from the deep indentations of both shores, the road along the spinal ridge of the island commands the most delightful prospects of bays and green headlands on either side. In the sheltered valleys, the clusters of sago palm and banana trees give the landscape the character of the tropics; on the hills the forests of pine recall the scenery of the temperate zone. The northern part of the island abounds with marshy thickets and hills overgrown with dense woodland, infested with wild boars, but the southern portion is one vast garden. The villages all charmed us by the great taste and neatness displayed in their construction. In the largest of them there were buildings called *cung-quas*, erected for the accommodation of the agents of the government, on their official journeys through the island. They were neat wooden dwellings, with tiled roofs, the floors covered with soft matting, and the walls fitted with sliding screens, so that the whole house could be thrown open or divided into rooms at pleasure. They were surrounded by gardens, enclosed by pine hedges, and were always placed in situations where they commanded the view of a pleasant landscape." Little is known of the other islands of the group. The history of Loo Choo goes back

to the 12th century of our era, at which period the chief island was divided into three kingdoms or principalities. These were afterward consolidated into one, which became tributary to China, and subsequently to Japan. The present dynasty is said to be related to the imperial family of Japan. As a dependency of Japan, Loo Choo was included in the treaty negotiated by Commodore Perry with the government of Yeddo, and the port of Napa was opened to American commerce.

LOOMIS, ELIAS, an American physicist, born in Tolland co., Conn., in Aug. 1811. He was graduated at Yale college in 1830, where, after 8 years devoted to teaching and professional studies, he received the post of tutor, which he held for 8 years. He was the first person in America to obtain a view of Halley's comet, at its return in Aug. 1835, and his observations on that body, with a computation of its orbit, were published in the "American Journal of Science." He also made a series of hourly observations on the declination of the magnetic needle, continued through more than a year. In 1836 he visited Europe, spending a year in Paris, where he attended the lectures of Poisson, Biot, Dulong, and Pouillet. Returning home in 1837, he assumed the duties of professor of natural philosophy in the Western Reserve college, Ohio, where he remained for several years. Here he made, among other observations, those of 260 moon culminations for longitude, 69 culminations of Polaris for latitude, 16 occultations, 5 comets with sufficient accuracy to determine their orbits, beside a multitude directed to the regulation of the clock and other purposes. He observed the magnetic dip in nearly all the northern states, from Massachusetts to Wisconsin; and keeping a full meteorological journal, he made the most complete investigation that had hitherto appeared of several American storms, introducing some new methods of his own. Of these researches, the larger portion appear in 10 memoirs contributed to the "Transactions of the American Philosophical Society" (vols. vii.-x.). In 1844 he accepted the professorship of natural philosophy in the New York university, which office he still occupies. A portion of the time between 1845 and 1849 he was employed in connection with the late S. C. Walker and others, under the direction of the superintendent of the coast survey, in determining the difference of longitude between New York and other cities, by means of the electric telegraph. In the course of these experiments, the observations at the New York station being uniformly made by Prof. Loomis, the velocity of the electric current through telegraph wires was first determined. The contributions of Prof. Loomis to science cover a great variety of subjects, but relate more especially to astronomy, magnetism, and meteorology. Beside the memoirs above referred to, some 30 or more papers of his have appeared in the "American Journal of Science;" one, on storms, in the "Smithsonian Contributions to Knowledge;"

two astronomical papers in Gould's "Astronomical Journal;" and one or more yearly in the "Transactions of the American Association for the Advancement of Science." His published works consist of "Elements of Algebra;" "Elements of Geometry and Conic Sections;" "Trigonometry and Tables;" "Elements of Analytical Geometry, and of Differential and Integral Calculus;" "Introduction to Practical Astronomy;" "Recent Progress of Astronomy;" "A Treatise on Arithmetic, Theoretical and Practical;" and "Elements of Natural Philosophy."

LOON, a web-footed bird. See DRIVER.

LOPE DE VEGA. See VEGA.

LOPEZ, NARCISO, a Cuban revolutionist, born in Venezuela in 1799, garroted in Havana, Sept. 1, 1851. He was the son of a wealthy merchant, and displayed at an early age much sympathy with the national independence of South America, although he served for some time in the army of the king of Spain, from which he retired in 1822 with the rank of colonel. After the evacuation of Venezuela by the Spanish troops, he established himself in Cuba, and afterward during a stay at Madrid he joined the constitutional party of Isabella against Don Carlos, and became successively adjutant of Gen. Valdes, governor of the Spanish capital, and senator for Seville, but threw up his offices after the refusal of the cortes to admit the representatives of Cuba. Valdes became governor-general of that island, and Lopez on returning thither was employed by him in various capacities, and also turned his attention to the exploration of copper mines. His enthusiastic nature was soon attracted by the project of throwing off the yoke of Spain, and he proceeded in 1849 to the United States, where he sunk almost his whole fortune in the organization of three successive expeditions to Cuba: the so called Round island expedition in 1849, the "invasion of Cardenas" expedition in May, 1850, both of which failed, and lastly the Bahia-Honda expedition, which set out in Aug. 1851, and which ended fatally. Lopez, with several hundred persons of different nationalities whom he had enlisted in various parts of the United States, landed at Morillo, near Havana, where he left 200 of his men under the command of Col. Orittenden, who were soon taken by the Spaniards and shot. Lopez himself went to Las Pozas, where he succeeded in repelling an attack of the Spanish soldiers; but, isolated from his friends, he sought refuge in the mountains, where he was captured and taken to Havana. He was sentenced to death, which he met with great firmness. He left a wife and a son; the latter, now (1860) about 27 years old, was at the time of his father's death pursuing his studies in Switzerland.

LOPHIODON (Cuv.), an extinct tapiroid pachydermatous animal, found in the eocene tertiary deposits of central Europe—the genus *tapirotherium* (Blainv.). The dental formula, according to Pietet, is: incisors $\frac{3}{3}$, canines $\frac{1}{1}$, and molars $\frac{6}{6}$. The dentition resembles that of the tapira, and the generic name indi-

cates the transverse ridges of the molars; but these are more oblique than in the tapirs, single in the anterior teeth, and triple in the posterior. Their remains are not found in the diluvium, pliocene, or miocene, but in the eocene fresh water strata. Of the 8 species mentioned by Pictet, the largest is the *L. Iselense* (Cuv.), one third larger than the Indian tapir, and of the size of a small rhinoceros.

LOPHOBANCHS, an order of bony fishes, whose gills, instead of hanging in regular fringes, are disposed in tufts arranged in pairs along the branchial arches. The external skeleton resembles the armor of the ganoids, and they are placed by some as an order of this class; the body is almost fleshless, and the form is generally stiff and angular; the snout is elongated and tubular, the gill opening very small, and the air bladder without a duct. This order includes, among others, the genera *hippocampus* (Cuv.), *pegasus* (Linn.), and *syngnathus* (Linn.). In the *hippocampus*, or sea horse, the head resembles that of a miniature horse surmounted by spines or knobs; by means of the prehensile tail they can suspend themselves from submarine objects; like the chameleon, they possess the faculty of directing one eye forward and the other backward; they inhabit all parts of the ocean. Among the strange and beautiful forms in this order may be mentioned the *phyllopteryx* of the Australian seas, having the most exquisite red and purple tints, and adorned with numerous leaf-like appendages. In the mailed *pegasus*, with its spiny rings, the mouth opens at the base of the prolonged snout, as in the sturgeons. *Syngnathus* will be noticed under PIPE FISH. One of the most curious peculiarities in this order is that the males carry the eggs about in ventral or caudal pouches until they are hatched.

LORAIN, a N. co. of Ohio, bordering on Lake Erie, drained by Black river and Beaver creek; area, 550 sq. m.; pop. in 1850, 26,086. The surface is level and the soil fertile. It is intersected by the Cleveland, Columbus, and Cincinnati, the Cleveland and Toledo, and the Lake Shore railroads. The productions in 1850 were 142,881 bushels of wheat, 385,837 of Indian corn, 174,210 of oats, and 262,500 lbs. of wool. There were 4 grist mills, 22 saw mills, 1 foundry, 1 woollen factory, 6 tanneries, and 8,027 pupils attending schools. Capital, Elyria.

LORD, NATHAN, D.D., an American clergyman, born in Berwick, Me., in 1792. He was graduated at Bowdoin college in 1809, and passed 2 years as an assistant at Phillips Exeter academy. After a year spent in general studies, he entered upon the study of theology at Andover theological seminary, completing his course in 1815. In May, 1816, he was ordained pastor of the Congregational church in Amherst, N. H., where he remained 12 years. In 1828, upon the resignation of the Rev. Bennet Tyler, D.D., he was chosen president of Dartmouth college, a position which he still retains. Dr. Lord has been an occasional contributor to theological reviews, and has published numerous sermons

as well as essays and letters on topics in theology and ethica. Among the latter may be mentioned a "Letter to the Rev. Daniel Dana, D.D., on Prof. Park's Theology of New England" (1852); an essay on the millennium, read to the general convention of New Hampshire (1854); two "Letters to Ministers of the Gospel of All Denominations on Slavery" (1854-'5), in which he endeavors by biblical and religious arguments to prove the lawfulness of slavery; and some others on kindred subjects, which have attracted attention from their peculiarities of opinion as well as the vigor and earnestness with which the author maintains his views. He has also edited with an introductory notice a selection from the sermons of his son, the Rev. John K. Lord, a Congregational clergyman, who died in Cincinnati in June, 1849 (Boston, 1850).

LORD'S DAY, the legal name of Sunday. In the early ages of Christianity it does not seem to have been supposed that Sunday had taken the place of the Jewish sabbath; but from the days of the apostles it was regarded with veneration, as the *dies dominica*, or the Lord's day. In Great Britain and the United States there is however a different feeling toward Sunday from that which prevails elsewhere in Christendom; and this is manifested equally in the provisions of law and in common usage. From early times the day was set apart as one not to be employed in secular business, and hence came the maxim quoted by Coke: *Dies dominicus non est juridicus*. So early as in the 27th of Henry VI. (1449) an act was passed prohibiting fairs and markets on certain feast days, Easter Sunday, and "other Sundays." In the 1st of James I. (1603) dealers in leather were prohibited from exposing for sale shoes, &c., on Sundays; and in the 1st of Charles I. (1625) a statute prohibited meetings of persons for any sports and pastimes out of their parishes, or for "bull or bear baiting, common plays, interludes, or other unlawful games and exercises, within their parishes." But in the 29th of Charles II. (1678) the statute was passed which may be regarded as the foundation of all the present law on the subject, in England and in the United States. It enacted "that no tradesman, artificer, workman, laborer, or other person whatsoever, shall do or exercise any worldly labor, business, or work of their ordinary callings, upon the Lord's day or any part thereof (works of necessity and charity only excepted);" and "that no person or persons whatsoever shall publicly cry, show forth, or expose to sale, any wares, merchandises, fruit, herbs, goods, or chattels whatsoever, upon the Lord's day or any part thereof." This act was followed by a series of decisions which, proceeding upon the ground that all prohibitory statutes must be construed rigorously, have certainly confined the operation of the statute within narrower limits than were intended. Thus, while it says that "no other person whatsoever" shall, &c., it has been held, that because general words following particular words must be con-

strued as *ejusdem generis*, therefore the previous particular words, "no tradesman, artificer, workman, laborer," are to be taken as including all those to whom the statute applies; and on this ground it has recently been held by Lord Tenterden, that drivers and proprietors of stage coaches are not included, and that a contract to carry a passenger in a stage coach on a Sunday is not unlawful in England. So, too, the words, "any worldly labor," are, after some fluctuation, now controlled and limited by the subsequent words, "or work of their ordinary callings;" and therefore one who sold a horse on Sunday was permitted to recover the price because it was not "the exercise of his ordinary calling;" and Baron Parke (now Lord Wensleydale) is the only eminent judge who has recently doubted this very narrow limitation of the statute.—In this country we have but little nice construction of this kind applied to what are called, in common parlance, the Sunday laws, although the statutes always speak of Sunday as the Lord's day. The Puritan colonists, if they did not introduce, at least adopted and established to the full extent of their influence, the idea that Sunday was the Christian sabbath, and that it was to be kept holy not merely by the absence of all labor, but by that of all amusement. One reason for this probably was, although they may not have been conscious of its operation, an earnest desire to confirm and perpetuate the distinction, or rather the opposition and hostility, between them and the Roman Catholic church, and that English Episcopal church which they considered as only the Roman church thinly disguised. Hence their customs in relation to Sunday were rigid to the last extreme, and their laws almost equally so. Ludicrous stories are told of them, as that no one was permitted to make beer on Saturday, lest it should "work" on Sunday; but for all these there is probably no better foundation than the fact of very rigorous laws against labor and recreation. These laws remained in full force as long as they were sustained by the feelings and habits of the people. But the excessive severity of the earliest years of our colonies could not be maintained either in usage or in law. There was a gradual relaxation, which by the time of the revolutionary war had become very considerable. When the colonies became states, the Sunday laws assumed a form which they have maintained substantially ever since; although it is certain that the observance of these laws has become much less constant and universal than it was formerly, and violations are now habitual and disregarded, which would have formerly been visited with immediate punishment. The laws, in their letter, are very similar in nearly all the states, and are substantially the same with the earliest laws of the states of New England. They provide generally, perhaps universally, but with some diversity of language, that no persons shall engage in any labor, business, or work, excepting only works of necessity and charity, on the Lord's

day.—Among the questions which have arisen under these laws, the most important was, whether a contract made on Sunday in violation of law was nevertheless valid, leaving the parties liable to punishment for their breach of the law. This was the construction put upon the statute in Massachusetts until recently, and in other states there were rulings to a similar effect; but the prevailing if not the universal law now is, that the contract itself, by means of its illegality, is wholly void, conferring no rights and imposing no obligations upon any party. In Ohio a distinction has been made somewhat like that taken in the English courts, and a contract made on Sunday for the sale of land was held to be valid, apparently on the ground that this was only the case of a single sale out of the ordinary course of business, while the statute was intended only to prevent the pursuit of one's ordinary business on that day. But in Indiana, where the words of the statute are precisely the same as in Ohio, it is held, in conformity with the prevailing rule, that all contracts made on Sunday are void. It is, however, admitted, that a contract begun on Sunday, and agreed upon as to all its terms but not in fact completed until the next day, is binding. Thus if A agrees to sell an article to B for a certain price, and the whole bargain is arranged and agreed to on Sunday, and, in the execution of it, on Monday morning A gives to B the article and B gives to A his promissory note for the price, the property in the article passes, and the note is as valid as if the whole bargain had been made on Monday. But whether a bargain wholly made on Sunday, and therefore void thus far, can be rendered valid by a mere subsequent recognition, is uncertain on the authorities; but their tendency is to the negative. So, too, we have authority, though certainly not uncontradicted, for saying, that if a sale is made on Sunday and the property then delivered to the buyer, and the price is not then paid, the seller cannot maintain an action for the price, because the contract, being void, imposed no obligation on the buyer; and neither can the seller, if the buyer refuses to return the article, maintain an action for it or its value, because he has parted with the possession by his own wrongful act, and both parties being violators of the law and in equal fault, the law leaves them to suffer the consequences of their acts, and will not interfere to help either against the other.—The question as to what is covered by the exception of works of necessity or charity, has frequently been raised. Thus, when a defect in a highway endangered passengers, it was held in Massachusetts to be not only the right but the duty of the proper authorities to repair it on that day. In Pennsylvania, where a son hired a carriage to visit his father, it was declared to be a legal contract, there being no evidence that it was a mere "excursion of pleasure." And in Alabama it was held that a creditor might lawfully enter into a contract with his debtor on Sunday, if he could satisfy a jury

that it was necessary to do this on that day in order to save his debt or obtain indemnity. But in a case which came before the English house of lords, although we should hardly expect to find it there, it was solemnly adjudged that a barber could not lawfully require his apprentice to attend in his shop on Sundays, to shave customers, because this was a work of convenience only, and neither of necessity nor of mercy. An interesting question was once raised in Pennsylvania, whether the exception in the Sunday laws extended to the contract of marriage; for in that state, as in most others, a very large proportion of the marriages which take place are celebrated on Sunday. If this contract be illegal, it is void, and fearful consequences would ensue. Without, however, the aid of authoritative decision, it seems to be generally conceded that a marriage celebrated on Sunday is valid, either because it is a continuing contract, remade every successive day, or because it stands in the same class with baptisms, funerals, and other acts which have a religious character imparted to them, and for which Sunday is a proper day. But it appears now to be settled law, that there is no class of contracts and no acts of a business character which of themselves, and by their own nature, are works of necessity or charity; while any act may be made so by circumstances. Thus, even the solemn act of making a will is not one which may lawfully be made on Sunday, unless the circumstances of the case give to the execution of that will at that time the character of a work of necessity or charity; while, as we have seen, even a bargain of business may be justified and made valid by necessity. In relation to the degree or kind of necessity required to justify an act, a considerable change in public opinion has unquestionably taken place. But a few years since, prosecutions were maintained for slaughtering animals for food in weather so hot, that if killed on Saturday the meat would be spoiled on Monday; but now such things are never heard of. On one point, which has come before various courts, there is as yet no settled law. If A makes a bargain with B on Sunday in violation of law, and by an abuse of this bargain inflicts an injury on B, has B no remedy? Thus, if A hires B's horse for a specific journey on Sunday, B cannot recover the hire of the horse; but if A goes four times as far and rides the horse to death, has B still no remedy? So it has been held in Massachusetts; but in New Hampshire the doctrine is, that while B acquires no rights under the contract, he has all his rights to recover damages for the wrong done to him. This we hold to be the better doctrine, and in conformity with the established principle that the Sunday laws are intended to prohibit and do prohibit only contracts and the transaction of business on that day, but are not intended to permit a man to commit with impunity on that day a wrong which, if committed on any other day, would expose him to

punishment, or give the injured party a claim for damages.—The extent of the Lord's day is not quite certain. Some of our statutes define it, and indeed most of them do so now, but not yet all. In Connecticut it has been defined by the courts as extending only from daybreak to the closing of daylight on the Sunday. Generally it is from sunset on Saturday to sunset on Sunday; but for many purposes it begins only at midnight between Saturday and Sunday and ends with the next midnight. The very important rule has been asserted, that if a contract is proved, as by an uncontradicted date upon it, or otherwise, to have been made on Sunday, this is not enough to invalidate it, unless it can be also shown to have been made within the protected hours. For if an act may have been legal, the law will presume that it was so if there be no evidence to the contrary. Some of the state statutes contain exceptions, providing that the Sunday laws shall not apply to those who conscientiously observe Saturday as the sabbath, if they do not disturb others in their observance of Sunday.—Formerly a question was raised, not before the courts, but before congress, which produced much excitement, and almost rose to the dignity of a political question, as to the running of the mails on Sunday. But it was practically settled by the system which now prevails through the country, by which the short and local mails do not run on Sunday, nor are the post offices generally open for delivery; but the long mails continue on their route, and the largest post offices are open a part of the day.—In some of the states, or rather of the largest cities, as New York, St. Louis, and Cincinnati, a question has practically arisen, which will probably soon come up for legislative action, how far the provisions of the Sunday laws should be qualified to bring them into better accordance with the tastes and habits of the citizens of foreign birth who form a large part of their populations.

LORDS, HOUSE OF. The parliament of the United Kingdom of Great Britain and Ireland is composed of the sovereign and the three estates of the realm, the lords spiritual, the lords temporal, and the commons. Of these, the lords spiritual and lords temporal constitute the house of lords. The former consist of the archbishops of Canterbury and of York, 24 English bishops, and 4 bishops of the church of Ireland, of whom one is regularly an archbishop. Constitutional writers are not unanimous upon the right or tenure by which the lords spiritual sit in parliament. In the Saxon times, certainly, they sat by virtue of their ecclesiastical office. At the conquest, says Blackstone, the spiritual tenure of frank almoign, or free alms, upon which the bishops held their lands under the Saxon government, was changed into the feudal or Norman tenure of barony; and it was by succession to these baronies, which were inalienable from their respective dignities, that the bishops and abbots were allowed their seats in the house of lords. So the constitutions

of Clarendon (see HENRY II.) declared that the bishops should hold their lands as baronies, and attend the king's court. It is probable that the prelates are now summoned to parliament as territorial barons, and it may be that this title by tenure merges all claims founded upon episcopal dignities and supported by ancient usage. The bishops were excluded from parliament during the commonwealth, but were restored by statute. With this single interruption, the bishops have always been present in parliament, and with unquestioned right. The lords spiritual are lords of parliament, though not peers of the realm. When therefore a peer is to be tried, the bishops are entitled to take part in the proceedings, though, in conformity with the canons of the church, which forbid them to vote in capital causes, they are generally absent from the judgment. Being not of noble blood, like the hereditary peers, for a capital offence they are tried by a jury like other commoners.—The lords temporal are divided into dukes, marquises, earls, viscounts, and barons. They are the hereditary peers of the realm, ennobled in blood, and subject to loss of their dignities only by attainder or by act of parliament. Since the union with Scotland in 1707, and with Ireland in 1801, 16 Scottish and 28 Irish representative peers have been returned to parliament by the peerages of Scotland and Ireland. They enjoy all the privileges of parliament, and may sit upon the trial of peers. A peer is made so by the royal patent or writ which summons him to parliament, and the dignity is usually made hereditary by limitation to the heirs male of his body, although it is sometimes provided that it may descend to others, as for instance, to his nephew or brother. The power of the crown to create a life peerage raised in 1856 a very important question, and one which was very earnestly debated. On retiring from the bench Sir James Parke (Lord Wensleydale) was created baron of the United Kingdom for and during his life, instead of the usual limitation. Government urged as a reason for granting life peerages, the convenience of adding to the number of law lords in the house, the law lords being peers who have held high judicial office in the kingdom, and who substantially alone determine all judicial causes. It had happened in 1855 that only two law lords, the lord chancellor and Lord St. Leonards, had sat to hear arguments. Upon some of the causes they differed in opinion, and as, upon a familiar maxim in the procedure of the lords, this equality of votes led in each case to affirmance of the decrees brought up from inferior courts, appellants argued that there was virtually no decision, and expressed great discontent. For the remedy of this and other mischiefs the creation of life peerages was proposed. After prolonged discussion, however, the lords decided, if not against the strict legality of the measure, yet against its constitutional expediency. The crown retreated from its position, and Lord Wensleydale received a patent in the usual form.—The peers of the realm possess

titles of honor which give them the privileges of rank and precedence; and they are individually the hereditary counsellors of the crown; with the lords spiritual they form, when not assembled in parliament, the permanent council of the sovereign, though they may act in the same capacity when so assembled, as for example in addressing the throne upon matters of foreign or of domestic policy. When sitting in parliament the peers form in conjunction with the lords spiritual a branch of the supreme legislature of the kingdom; and, in the exercise of peculiar functions, they constitute a court of judicature. In its judicial office the house of lords possesses a distinctive character as the highest tribunal of the realm. The lords have an original and exclusive jurisdiction in the trial of peers, and under reference from the crown upon claims of peerage and affairs of honors. By the acts of union they have a like jurisdiction over cases of contested elections, or the rotation of the Scottish or Irish representative peers. They have also a general jurisdiction as the supreme court of appeals from the other courts of the kingdom. These judicial functions the house of lords retains as the representative of the ancient *concilium regis*, or council of the king. Without going so far back into antiquity as the witenagemote, which was indeed the highest judicial tribunal of the Anglo-Saxons, and like the house of lords paramount to every other, a closer resemblance to the present order may be found in the institutions of the early Norman kings. William the Conqueror erected a new court, the *curia*, or *aula regis*, composed of the high officers of the state, which, when affairs demanded, was increased by the king's chief barons, his tenants *in capite*. This court transacted all business, civil and criminal, as well as that which concerned revenue or war. This *magnum concilium*, as Lord Holt calls it, was the same as the present high court of parliament, the house of lords, and had jurisdiction, as just mentioned, both in civil and criminal causes, especially in those relating to great persons and to king's officers of state, and by way of appeal from all other courts; and now the lords possess an appellate jurisdiction as a court of last resort for the correction of errors from inferior tribunals.—In respect to the construction of the house for any purpose, legislative or judicial, there is no distinction between the lords temporal and the lords spiritual. The presence of three members, whether spiritual or temporal, who have been duly summoned and sworn, is necessary and sufficient; and when a speaker has been appointed, the house is constituted and may proceed to act either as a branch of the legislature or as a supreme court of judicature. The lord chancellor or lord keeper of the great seal is speaker *ex officio*, and an ancient order declares it to be "his duty ordinarily to attend the lords' house of parliament." To make provision, however, for his necessary absence, deputy speakers are appointed by commis-

sion from the crown, "to officiate from time to time during the royal pleasure in the room and place of the lord chancellor." The office is generally conferred upon the chief justice of the king's bench, or the chief baron of the exchequer. In the absence of both the lord chancellor or keeper and the deputy speakers, the lords themselves select a speaker *pro tempore*. The person who acts as speaker need not be a member of the house, nor indeed of the peerage. Commoners have often been raised to the office. They may sit as speakers upon the woolsack, for constitutionally that is not within the limits of the house. The lords answer "content" or "not content" in voting, and on an equality of votes the effect is the same as if there were a majority of "not content," for the maxim of the house is: *Semper præsumitur pro negante*. In conformity to this rule, the question upon appeals or writs of error is upon the reversal and not the affirmance of the decrees of the court below.—In its judicial capacity the house of lords is undoubtedly a court of record, though it is not so, says Lord Kenyon, when acting as a legislative body. Though, in matters of a legislative character, all proceedings in the house of lords drop with the session, yet all judicial processes remain *in statu quo*, notwithstanding the prorogation, or even the dissolution of parliament. Upon all questions before the house in its legislative character, proxies may be and often are used; but by a standing order of the year 1697 no proxies are permitted to be used in any judicial matter. The lords are entitled constitutionally to the assistance of certain high legal functionaries of the realm. The justices of the king's bench and of the common pleas, the barons of the exchequer, the attorney-general, solicitor-general, and king's sergeants are commanded by the writ, under the great seal, which accompanies the patents of their offices, "to give their attendance in parliament, and to treat, confer, and give their advice." These officers were originally summoned as members of the *concilium regis ordinarium*, who at a very remote period probably gave their votes on judgment. Their duties were anciently of the first importance. No cause was heard without their assistance; they gave opinions and advice upon questions of law and equity, prepared special judgments, and drew up issues when trials at law were directed. But for more than a century and a half the judicial functions of the house of lords have been exercised almost entirely without the assistance or even presence of the judges. They appear very rarely now in the house, and then only when specially summoned. The summons is usually directed to the common law judges, for they are excluded from the house of commons, while the attorney-general, the solicitor-general, master of the rolls, and king's sergeants are not. This order for the attendance of the judges may issue either upon the proper motion of the house or upon petition of suitors, if it appear from the character of the

case that judicial assistance will be needed.—The jurisdiction of the lords upon writs of error is of great antiquity, but that upon appeals from courts of equity is of recent origin. The first instance of an appeal is found in the year 1621. During that century the exercise of this jurisdiction by the lords led to angry and prolonged disputes between the two houses of parliament. The right to exercise it was questioned by some of the first lawyers of the time. Sir Matthew Hale contended that the power of their lordships to examine the judgments of courts of law was derived solely from the commission implied in the royal writ of error, and that the house could not adjudicate upon an appeal without violating the great constitutional maxim which supposes all jurisdiction to be derived immediately and exclusively from the crown. Particularly in the celebrated case of Dr. Sherley against Sir John Fagg, was this question most vigorously contested. The commons were not fairly defeated, yet they finally acquiesced, and since that period no resistance has been made to the lords' claim of power to receive and determine appeals from the equity courts. This triumph of the peers is usually ascribed to the earl of Shaftesbury, who insisted that the lords' power of review extended over all the courts in the kingdom, civil, criminal, and ecclesiastical. But from the last named courts appeals have never been entertained. So orders made on motion or petition in matters of idioecy, lunacy, or bankruptcy cannot be carried up to the lords, but must be presented to the king in council. Appeals lie from all courts of equity in England and Ireland, and in Scotland from the courts of session and from the commission of teinds, composed of the judges of the court of session, and established for "the plantation of kirks and valuation of tithes." The decrees or sentences of her majesty's court of exchequer are also reviewable by the house of lords; but as appeals are competent only upon proceedings which follow the forms of equity practice, and as these are unknown to the Scotch court of exchequer, the mode of relief from this court is by writ of error to parliament and not upon appeal.—The ancient course of proceeding upon error was, says Sir Matthew Hale, either by petition or by writ, both forms however being substantially the same. During 18 months of the session of the long parliament, from May, 1646, to Dec. 1648, 162 writs of error were brought before that body. This fact indicates that this jurisdiction was even then familiar and popular; indeed, the forms of procedure at present do not differ materially from those settled upon three centuries ago. Writs of error to the lords are confined to matters of law. They lie from all judgments of the courts of exchequer chamber in England and Ireland, and from all judgments in common law of the court of exchequer in Scotland; from all such judgments of the courts of queen's bench in England or Ireland as are not intermediately reviewable by the courts of exchequer chamber

of the two countries; from all judgments of the common law or petty bag side of the high court of chancery; and from decisions of the commissioners of error appointed to review the common law proceedings of the London municipal jurisdictions. Sir Matthew Hale says the lords have power to reverse their own judgments; but no example of an exercise of this power can be found within several centuries. In the case of Titus Oates, the lords in 1689 affirmed the rigorous judgment of the court of king's bench. Subsequently they were disposed to recall their decree, and the concurrent action of both houses seems to indicate that an act of parliament, which was then proposed though not carried, is the only means by which a judgment of the lords can be reversed.—Until 1857 divorce in England was of two kinds, judicial and parliamentary. When consanguinity or affinity within the forbidden degrees, physical incapacity or mental imbecility, rendered the parties incapable of making a contract of marriage, the ecclesiastical courts might pronounce the nullity of a presumed marriage, or in other words declare that it had in fact never existed; in cases of conjugal infidelity they might decree a separation or divorce *a mensa et thoro*; but in neither branch of their jurisdiction of divorce did the courts assume to break the legal bond of marriage. Divorce *a vinculo* was possible only upon an act of parliament. The jurisdiction in causes of divorce was not indeed exclusively reserved to the upper house, but it formed an important branch of its judicial functions. The divorce act of 1857 (20–21 Victoria, c. 85) introduced important modifications into the English law of divorce, and into the jurisdiction over it both of the ecclesiastical courts and of parliament. The act transfers the power of the ecclesiastical courts in this province to the newly created "Court for Divorce and Matrimonial Causes," which is empowered in certain prescribed cases to decree an absolute dissolution of marriage. From the decision of this court, upon petition for dissolution, the act permits either party to prosecute an appeal before the house of lords. Cases are now frequently tried in the house of lords, and reports of these cases fill many large volumes. But, in point of fact, the trial or argument proceeds almost always before the "law lords," with a very few other peers who attend for form's sake, and usually take no part in the hearing or decision.

LORD'S SUPPER, a sacrament instituted by Christ on the night before his death. Some denominations, as the Paulicians in the ancient church, and the society of Friends in modern times, have denied that it was the intention of Christ to make this a religious institution for future times; but the vast majority of Christians from the earliest period of the church have regarded it as an ordinance or sacrament instituted by Christ, and celebrated as such. Some denominations (Roman Catholics, the eastern churches, and Lutherans) believe that in it Christ as God-man is really present and communicates

himself to the receiver; others (the Calvinists), denying the real presence of Christ in the elements, yet believe that there is in it a real communication of Christ with the believer; others again, that it is essentially a commemorative institution in remembrance of the sufferings and death of Christ. This last view prevails among most Protestant churches. The name Lord's supper is scriptural, being taken from 1 Cor. xi. 20. Other biblical names are "the Lord's table" and "the Lord's cup" (1 Cor. x. 21). Many other terms were early introduced in the church, of which "communion" (borrowed from 1 Cor. x. 16) and "eucharist" (Gr. *eucharistia*, thanksgiving) are the most common. The most important passages for determining the doctrine of the Bible respecting the Lord's supper are the accounts which the evangelists Matthew (xxvi. 26–29), Mark (xiv. 22–25), and Luke (xxii. 19–39), and the apostle Paul (1 Cor. xi. 24–26), give of Christ's last supper with his disciples. All four say in substance that "Jesus took bread, and blessed it, and brake it, and gave it to the disciples, and said: Take, eat; this is my body;" and that he "took the cup, and gave thanks, and gave it to them, saying: Drink ye all of it; for this is my blood of the new testament." Matthew has after "my blood of the new testament" the additional words: "which is shed for many for the remission of sins." Luke and Paul have also the words: "this do in remembrance of me." Paul warns the Corinthians (1 Cor. x. 16–21) that they cannot partake of the Lord's table and at the same time eat of the pagan sacrifices, because "the things which the gentiles sacrifice, they sacrifice to devils, and not to God;" and in another place of the same epistle (xi. 27–29), that "whosoever shall eat this bread and drink this cup of the Lord unworthily shall be guilty of the body and blood of the Lord," and "eateth and drinketh damnation to himself, not discerning the Lord's body." There are many other passages in the New Testament which some interpreters refer to the Lord's supper, but none of them as explicit as those mentioned above.—The words of the Bible were early interpreted in different ways. In the earliest periods of the church there were sects which felt at liberty to change the elements, and to take water instead of wine, and cheese instead of, or in addition to, bread. Many of the words of the early fathers concerning the Lord's supper are capable of various interpretations, and have been claimed by various parties for the confirmation of their views. But it is generally admitted that the celebration of the Lord's supper in the early church was a general usage, and was regarded by many fathers not only as something very solemn, but as something highly mysterious. Ignatius, Justin, and Irenaeus laid great stress on the mysterious connection existing between the Logos and the elements. Other fathers spoke of the elements as the symbols of the body and blood of Christ; thus Tertullian and Cyprian, both of whom, however, occasionally call the Lord's supper the body and

blood of Christ. It was especially the Alexandrian school (Clement of Alexandria, Origen, &c.) that advocated the symbolical aspect, and even opposed those who made no distinction between the external sign and the thing itself. The church writers became more explicit on the subject of the Lord's supper when after the 8d century the liturgical part of divine service was more developed. Chrysostom called it an "awful mystery." Some of the fathers spoke of "a real union" of the communicants with Christ; others of "a real change" from the visible elements into the body and blood of Christ. The idea that the Lord's supper was also a sacrifice, offered by man, and especially by the priest, was propounded as early as the end of the 2d century.—The first great eucharistic controversy was called forth by a book of Paschasius Radbertus in 881 (*De Corpore et Sanguine Domini*), in which he advanced the doctrine that the substance of the consecrated bread and wine in the eucharist was changed into the very body of Christ which was born of the Virgin. This was declared to be an act of creation by almighty power, though invisible to any but an eye of faith. He was especially opposed by Ratramnus, a monk of Corbie, who adhered to the view that in the Lord's supper there is a communion of the earthly with the heavenly. The controversy was brought before the highest ecclesiastical authorities, when Berengarius, archdeacon of Angers, maintained that there was a change in the sacramental elements only in a figurative sense. He contended that not the earthly elements themselves, but their influences, were changed by their connection with Christ in heaven, who was to be received not by the mouth but by the heart. These views were in particular expressed in a letter to Lanfranc, afterward archbishop of Canterbury, who asserted that the body of Christ in heaven remained entirely unaffected by the change in the elements on earth. Several synods in succession, between 1050 and 1079, condemned the views of Berengarius. At the synod of Rome in 1059 Berengarius consented to subscribe to a confession in which, in very strong expressions, a bodily participation in the flesh and blood of Christ was asserted. He recalled this confession, and resumed the controversy, but in 1079 consented to a still more decided declaration. The term "transubstantiation" was used in the 12th century by Hildebert of Tours, and was soon generally adopted as best expressing the general belief of the church. Similar expressions, as "transition," had been used before. The 4th council of Lateran, in 1215, declared transubstantiation an article of faith, and in 1267 a special holy day (Corpus Christi) was instituted, to give annually a public exhibition of the belief of the church. Already a considerable time before, it had become customary in the Latin church to give to the laity the Lord's supper only under the form of the bread, though, as the church declared, solely from reasons of ex-

pediency. The council of Basel expressly confirmed the doctrine that Christ exists wholly in either of the elements (for which doctrine the theologians used the term "concomitance"). Abbot Rupertus Quotiensis, in the 12th century, had advanced the doctrine of the union of the body and blood of Christ with the bread (impanation), and was followed by several theologians, even after the definition of the dogma of transubstantiation by the Lateran council. Wycliffe opposed both transubstantiation and impanation, and, with Berengarius, believed in a change from an inferior into a superior. The Greek church, when it separated from the Latin, also believed in a change of the elements into the body and blood of Christ; and in the efforts for a union of the two churches, the question of leavened or unleavened bread was the only point of difference with regard to the Lord's supper.—With the reformation of the 16th century the controversy respecting this doctrine began anew. The reformers agreed in rejecting the mass and transubstantiation, and demanded, as the Hussites had done before them, that the sacrament should be given to the laity under both forms. But they differed among themselves concerning the words of institution and the essence of the sacrament. Luther maintained the real and substantial presence of the body and blood of Christ, taking place, not by a transmutation of the external elements, but by a supernatural, though inconceivable, union (*unio sacramentalis*) of the body and blood of Christ with the consecrated bread and wine. Christ is present, according to the words of the larger catechism of Luther, in and under the bread, and is received not only by the good, but also by the wicked. In connection with his doctrine of the Lord's supper Luther maintained the ubiquity of the body of Christ. The objective effect of the Lord's supper, according to Luther, is the remission of sins; the subjective consists in the confirmation of the regeneration which commenced in baptism. Zwingli regarded the bread and wine only as momentous signs of remembrance of the body and blood of Christ, which are in heaven. The effect, in his opinion, consists in a confirmation of our faith in the redemption of mankind through the death of Christ. He explained the "is" in the phrase "this is my body" in a figurative sense, as synonymous with "signifies." Œcolampadius differed from Zwingli only in the grammatical construction of the words of institution, taking, not the word "is," but the whole phrase, and in particular the words "my body," in a figurative sense. Calvin agreed with Zwingli in taking bread and wine only as external signs, but with Luther he believed in a real though only spiritual participation of the body and blood of Christ. This participation does not consist in the infusion of a divine substance, but in a spiritual, animating power which from the glorified body of Christ streams over into our souls. As the glorified body of Christ is now only in heaven, the soul, in order to partake of it, must be elevated in a mysterious

manner, through the agency of the Holy Spirit, to heaven, where it receives the body of Christ not with the mouth, but by faith. Unbelievers do not receive the body of Christ, but only the sign to their own damnation. When, in the 2d half of the 16th century, some Lutheran theologians inclined, after the example of Melancthon, to the doctrines of Calvin, the Crypto-Calvinistic controversy arose in the electorate of Saxony; it ended with the banishment of the Crypto-Calvinists. Most of the other Protestant denominations which arose in and after the 16th century adopted the views of Zwingli, while the society of Friends rejected the Lord's supper altogether as a Jewish ceremony, which Christ had observed like many other ceremonies, but which was not instituted and had no signification for spiritual Christians. The modern German theology of the United Evangelical church aims generally at a compromise between the views of Luther and Calvin, emphasizing real, objective communication of Christ to the worthy receiver, but dropping Luther's doctrine of the ubiquity of Christ's body. In the Lutheran church and the Protestant Episcopal church eucharistic controversies have often occurred, as one party in each church still lays great stress on the real and substantial presence of Christ in the Lord's supper, while another party strenuously opposes it. Those divines of the Lutheran church who adhere to Luther's views concerning the real presence, are generally opposed to an admission of members of the Calvinistic or Zwinglian confessions to the celebration of the Lord's supper in Lutheran churches, and, still more, to Lutherans receiving the sacrament in Calvinistic or Zwinglian churches. A similar question (open or close communion) is agitated in the Baptist churches (see BAPTISTS), where one party maintains that none can be admitted to the Lord's supper save those who have been baptized (immersed) on a personal profession of their faith in Christ, while others admit all evangelical Christians.—The elements used at the Lord's supper are generally bread and wine. Christ, when celebrating the passover with his disciples, used unleavened wheaten bread. The apostolic church took the leavened bread which Christians used to bring with them for offerings. When these offerings ceased together with the agapæ, the Greek church retained the leavened bread, while in the Latin church since the 8th century unleavened bread has been used. At the separation of the Greek church from the Latin, the use of unleavened bread by the latter formed one of the principal charges of unsound doctrines brought against them by the Greeks, and proved afterward one of the greatest obstacles to a reunion of the two churches. The council of Florence, in 1489, which attempted this reunion, determined that either leavened or unleavened bread might be used; but the eastern church soon rejected this compromise together with the union of the churches. The Latin church gave to the bread the form of a wafer, which received the name

"host" from the Latin *hostia*, offering. On one side of it symbolic signs are stamped; since the 18th century, a crucifix with the letters I. N. R. I. (*Jesus Nazareus Rex Judæorum*). The Lutherans retained the wafer, but the Reformed and other Protestant denominations declared themselves against it, and took again common bread, and most of them also reintroduced the custom of breaking it. What kind of wine Christ used at the passover has not been determined with full certainty. The church, from the earliest time, considered the color of wine unessential, but white wine was soon generally preferred, as it is still with a majority of the Christian churches. The custom of mingling water with wine is said to have been introduced by Pope Alexander I.; it was expressly enacted in the 12th century, by Clement III., and regarded as a symbol of the blood and water which streamed from Christ's side on the cross. The Roman Catholic church mingles water with wine once before the consecration; the Greek church twice, cold water before, and warm water after the consecration. The Armenian and Protestant churches take unmixed wine.—It is admitted by all that in the primitive church the Lord's supper was always celebrated under the two forms of the bread and the cup, and that sects, like the Manichæans, who rejected the wine, were strongly censured. It was, however, an early custom to carry to sick persons merely the bread dipped in wine. In the 18th century Robert Pulleyn, of Oxford, declared it a good custom to give to the laity the bread only, to avoid the danger of spilling any of the wine. This view was very soon adopted by all the scholastics, who maintained that Christ was wholly present under either form, and that one form was sufficient for a valid celebration of the Lord's supper. Thomas Aquinas and Bonaventura especially recommended the universal introduction of the communion under one form, and this soon became the practice of the entire church. All the sects and reformers of the middle ages, as the Waldenses, Huss, Wycliffe, and Savanarola, protested against this withholding of the cup from the laity. The Protestant churches agreed in regarding the use of both forms as essential for the celebration of the ordinance. The practice of the Roman Catholic church was confirmed by the council of Trent in 1563, and has always since been adhered to by the church. Only those portions of the eastern churches which have acknowledged the supreme jurisdiction of the pope (United Greeks, Armenians, Copts, &c.) have been permitted to retain the communion under both forms, and the same was offered to the Protestants in the attempts to effect a corporative union between them and the Roman Catholic church.—In the ancient church bread and wine were consecrated by the bishops and presbyters and distributed by the deacons. In what this consecration consisted is, like the essence of the Lord's supper itself, a subject of controversy among the various Christian denominations. The Roman Catholic

and the eastern churches believe that the consecration was the change of the elements into the body and the blood of Christ; the Protestant denominations think that, in general, the consecration was regarded in the ancient church, as it is by them now, as a setting apart for and devoting to sacred use. The formulas used at the distribution of the Lord's supper were early fixed in liturgies. All the old liturgies contain the words of institution and a prayer; that of the Greek church a prayer to the Holy Spirit to change bread and wine into the body and blood of Christ.—The place where the Lord's supper was celebrated was at first the dwellings of the believers. In times of persecution they often had to celebrate it in hidden places, at the tombs of the martyrs, &c. As ecclesiastical architecture was developed, special altar tables or altars were introduced for its celebration. The time of celebration was at first, in accordance with the name and the institution of the ordinance, the night or evening; but it soon became a practice to connect it with the morning service, and so it is still in most churches; the Moravians, however, celebrate it always at the evening service. Participation in it was generally very frequent in the first ages, but became gradually rarer. In the 5th century several ecclesiastical writers complained of the remissness of Christians in this respect. Later synods prescribed that all the faithful should receive it on the high festivals of the church (Epiphany, Easter, Pentecost, and Christmas). The 4th council of Lateran, in 1215, restricted this universal participation on the part of the members of the church to Easter alone. Yet all the writers of the church strongly recommended to the faithful frequency of communion. The same was urged by the reformers of the 16th century. The Roman Catholic church regards the omission of receiving the Lord's supper during the Easter season as a mortal sin. The Protestant churches in former centuries in some cases punished those who had not appeared at the communion table for a long time or who despised the eucharist with banishment, excommunication, and refusal of Christian burial. The free Protestant churches have generally in their constitutions and statutes some provisions for the proceedings to be observed toward church members who refrain from the celebration of the Lord's supper.—The ancient church excluded the catechumens and the *lapsi* from the Lord's supper, and often gave it to children. Infant communion lasted in the Latin church until the 12th century, and exists in the Greek church still. The deacons used to carry it to those who were prevented from being present at divine service. The apostles received it, according to eastern custom, reclining; in the 4th century the custom of standing, and later that of kneeling, was introduced. Kneeling is still the general or prevailing practice among Roman Catholics, the eastern churches, the Protestant Episcopal church, the Methodists, and the Lutherans; in the other churches, sitting prevails,

as being a more scriptural posture. In a few denominations it is customary to sit round a table, and in some regions 12 always sit down at a time. At first bread and the cup were given into the hands of the communicants; later the distributing clergyman placed the bread in their mouth, and held the cup to their lips. The self-communion of the laity is prohibited by all the Christian churches; the self-communion of clergymen is generally practised in the Roman Catholic and the eastern churches, and also customary in the Protestant Episcopal church and among the Moravians. In some churches various ceremonies, as burning of candles, &c., accompany the celebration; in most of the reformed churches nothing is changed in the usual form of the divine service, except that a special communion service is used. The Protestant churches generally have allowed a great liberty with regard to the mode of celebration, and there is accordingly a great variety of usages, which it would require too much space to describe.—Histories of the doctrine of the Lord's supper in the Christian church have been written by Schulz, *Die Christliche Lehre vom Abendmahl* (2d ed., Leipsic, 1831); Ebrard, *Das Dogma vom heiligen Abendmahl und seine Geschichte* (2 vols., Frankfurt, 1845-'6); Kahnig, *Die Lehre vom Abendmahl* (Leipsic, 1851); and Rückert, *Das Abendmahl; sein Wesen und seine Geschichte in der alten Kirche* (2 vols., Leipsic, 1856). An account of the mode of its celebration by the various denominations is given by Scheibel, *Kurze Nachricht von der Feier des heiligen Abendmahls bei den verschiedenen Religionsparteien* (Breslau, 1824).

LÓRETTO. See CASA SANTA.

LORI, a quadrumanous animal of the lemur family, and genus *stenops* (Illiger). The teeth are: incisors $\frac{1}{2}$, canines $\frac{1}{2}$, molars $\frac{2}{2}$; the ears are short and rounded; the eyes large and near together; the fore finger no longer than the thumb; the tail very short or absent. They form the family *nycticebidae* of some authors. They are nocturnal in their habits, and so slow in their movements that they are often called slow lemurs; they live on trees, eating fruit and insects, and sometimes small birds which they surprise at night. The aposo (*S. potto*, Ill.) is of a reddish color, and inhabits the Gold coast of Guinea; the spinous processes of the last 5 cervical and first 2 dorsal vertebrae, according to Van der Hoeven, pierce the hairy integument, and have only a weak horny covering. The slow lori (*S. tardigradus*, auct.) is of a yellowish gray color, with a dark dorsal band, and a narrow whitish stripe between the eyes; it rivals the sloth for slowness; it inhabits Bengal, Siam, Borneo, and Sumatra. The *S. Javanicus* (Van der Hoeven) is found in Java. The slender lori (*S. gracilis*, Geoffr.), a native of Ceylon, is fawn-colored gray, without dorsal stripe. (See LEMUR.)

LORIENT, or L'ORIENT, a seaport town of France, in the department of Morbihan, situated on the bay of Biscay, at the mouth of the

river Scorff, which is here joined by the Blavet, 266 m. S. W. from Paris, and 40 m. N. W. from Vannes; pop. in 1856, 24,245. It is the seat of a dockyard with slips for laying down 30 vessels of war at a time. Connected with it are an arsenal, a school of naval artillery, artillery barracks, &c. The port is separated from the rest of the town by a wall, and occupies an area of 4,000 by 2,000 feet. There is a signal tower on an eminence S. of the harbor, from which vessels can be seen 30 m. out at sea. The entrances of vessels in 1854 were 860, tonnage 84,810; clearances, 1,488, tonnage 48,408. A number of vessels belonging to the port are engaged in the sardine fishery. The origin of Lorient is due to the naval depot founded there in 1666 by the French East India company, which from its situation took the name of *Port de l'Orient*, "port of the East." The building of the town was commenced in 1720, and in 1744 it was fortified. Its defences are still strong, and it ranks as a fortress of the 3d class.

LORME, MARION DE, or DELORME, a French courtesan, born in or near Châlons-sur-Marne about 1612, died in Paris in 1650. She was the daughter of a tradesman, and received little if any education. Endowed with extraordinary personal attractions, and with an intelligence and a wit equalled only by the recklessness and frivolity of her disposition, she captivated as soon as she came to Paris the hearts of many of the most brilliant gentlemen of the French court. Among her most devoted admirers was the celebrated marquis of Cinq-Mars, who was on the point of marrying her privately, in order to put an end to the attentions paid to her by Richelieu, when this occasion is said to have suggested to the amorous cardinal his law prohibiting secret marriages, the effect of which was to separate the lovers and to make the fickle Marion yield herself to the powerful minister. Her house soon became a centre for the most distinguished people. She shared her empire with Ninon de L'Enclos, who, however, was greatly her superior in mental culture, and who survived her half a century. Voltaire, in referring to Richelieu's relations with Ninon, is supposed to have confounded her with Marion. The number of her lovers was legion. Her favors were extended successively or simultaneously to the learned St. Evremont, the brilliant duke of Buckingham, and to many other more or less eminent men. During the minority of Louis XVI. she took an active interest in the movements of the Fronde. Her social circle, once the fashionable resort of the wits and roués of Paris, now became a focus of politicians and conspirators. In 1650 she was ordered by Mazarin to be arrested, but she died just before the officers of the minister came to take her to prison. Romantic reports of her having only simulated death, to make good her escape, and other stories in regard to her, were rife at the time, and have since been repeated, although they are not authenticated by facts.

LORRAINE, an ancient province of N. E.

France, was bounded N. by Luxemburg and Trier, N. E. by Deux-Ponts, E. by Alsace, S. by Franche Comté, and S. W. and W. by Champagne, thus comprising the territory now constituting the departments of Meuse, Moselle, Meurthe, and Vosges, a part of Bas-Rhin, and a district ceded to Rhenish Prussia by the treaty of Vienna of 1815. Its principal rivers were the Meuse, Moselle, Meurthe, Saône, and Ornain; the principal products were iron, salt, and other minerals, timber, grain, wine, and cattle. The inhabitants were mostly of German race, but only in a small part, between the Vosges and Metz, has the German language maintained itself; this part is therefore called German Lorraine. The province was divided into the duchy of Lorraine, comprising Lorraine proper, German Lorraine, and the territory of Vosges, with Nancy, Sarreguemines, and Epinal as capitals; the duchy of Bar, the capital of which was Bar-le-Duc; and the "three bishoprics," Metz, Toul, and Verdun.—Under the Roman emperor, the country formed a part of the province of Belgica Prima. It was conquered by Clovis, and on the division of the Frankish kingdom under his sons belonged to Austrasia. When the empire of Charlemagne had been repeatedly divided among his descendants, the division or kingdom of Lothaire II., son of the emperor Lothaire I., received the name of *Lothar's Eykt* in Low German, or *Lothari Regnum* in Latin, whence sprang the names Lotharingia in mediæval Latin, and Lorraine. His possessions, however, by far exceeded the limits of modern Lorraine, extending from the Moselle to the North sea. After his death in 868, Lorraine was divided between France and Germany, but subsequently the whole of it was attached to the latter empire. In the 10th century it was given by Otho the Great to his brother Bruno of Cologne, and was subsequently divided into Lower and Upper Lorraine. The former in later times received the name of Brabant, and eventually became a province of the dukes of Burgundy. The latter retained its name, and was conferred about the middle of the 11th century by the emperor Henry III. upon Gérard of Alsace, the founder of a long dynasty of dukes, who with some interruptions ruled Lorraine down to 1787, and some of whom greatly distinguished themselves in the wars of France and the empire. Collateral branches of the family were the Guises, Aumales, Elbœufs, Harcourt, and others distinguished in the history of France. During the reigns of Louis XIII., XIV., and XV., Lorraine was a principal object of contention between the empire and its western rival. Finally, by the peace which terminated the war of Polish succession, the ex-king of Poland, Stanislas Leszczynski, father-in-law of Louis XV., received Lorraine and Bar, to be annexed after his death to France; the duke of Lorraine, Francis Stephen, the future husband of Maria Theresa of Hapsburg and emperor, receiving in exchange the rever-

sion of the grand duchy of Tuscany, in which as in Austria he became the founder of the house of Hapsburg-Lorraine. Leszczynski died in 1766, when Lorraine became fully annexed to France.

LORRAINE, CHARLES DE, brother of the 2d duke of Guise and cardinal of Guise, better known as the cardinal of Lorraine, born in Joinville, Feb. 17, 1524, died Dec. 26, 1574. At the age of 14 he received the archbishopric of Rheims, which his uncle Jean de Lorraine had resigned in his favor. In 1547 he officiated at the coronation of Henry II., and almost immediately afterward was made a cardinal. He was sent to Rome in 1555 to conclude an alliance with the pope against Charles V., and both in this and in various other diplomatic missions displayed a remarkable talent in the management of affairs of state. His conduct, however, was not always free from the suspicion of his sovereign; and having on one occasion seriously offended the king by assuming the title of cardinal of Anjou, and thereby reviving the claims of his family to the county of Provence, it needed all the influence of the Guises and the protection of the famous Diana of Poitiers to restore him to favor. In 1558 he had a secret interview at Peronne with the bishop of Arras (afterward Cardinal Granvelle), minister of Philip II., at which he was induced by well chosen flatteries to lend his influence for a peace between France and Spain and the mutual coöperation of the two monarchs against the Protestants. The peace was concluded soon afterward, but the cardinal had now quarrelled with Diana, and both in the negotiations for this treaty and in the subsequent favors of the French king saw himself supplanted by the constable de Montmorency. Under Francis II., whom he also crowned, he was restored to power and obtained the administration of the finances. In 1561 he placed the crown upon the head of Charles IX. He sat in the council of Trent the following year, and threatened, if the council were not declared above the pope, to present a protest signed by 120 bishops. He went to Madrid in 1569 to negotiate a marriage between Charles IX. and Elizabeth of Austria, and 2 years afterward performed the ceremony of coronation for the 4th time when the king's nuptials with that princess took place. The cardinal was a liberal patron of letters and the founder of the university of Rheims. He possessed great powers of oratory, of which he made frequent display; and his literary abilities are attested by numerous letters, speeches, and sermons, collections of which are preserved in the imperial library at Paris. Vain, ambitious, and presumptuous, he was judged with severity by his contemporaries, and was even accused, on very slight grounds, of having procured the death of Charles IX. by poison. He has also been charged with complicity in the massacre of St. Bartholomew's day; but though his policy toward the Protestants was undoubtedly a severe one, this statement is not proved, and it is by no means certain that he was in France at the time.

LORRAINE, CLAUDE. See CLAUDE LORRAINE.

LORTZING, ALBRECHT GUSTAV, a German composer, born in Berlin, Oct. 23, 1803, died there, Jan. 20, 1851. His father, who was connected with the theatre, introduced him upon the stage while a child, and in a few years he began to compose songs and marches. He soon after officiated in the twofold capacity of actor and singer, and while filling an engagement at Detmold in 1826 produced a melodrama entitled "The Pole and his Child," which met with considerable success. He now produced in rapid succession a number of similar works, and an oratorio, the "Ascension of Christ." In 1838 he accepted an engagement at Leipsic, where in 1837 he produced his *Ozar und Zimmermann* ("The Ozar and the Carpenter"), which became one of the most popular operas of the day. Among his other works are *Caramo*, *Hans Sachs*, *Der Wildschütz*, and *Undine*, all of which attained considerable popularity. He was subsequently connected with the theatre at Vienna and other cities, and at the time of his death held the position of director at the Friedrich-Wilhelmstadt theatre in Berlin. His music is light and pleasing.

LORY, a division of the parrot family, embracing several very showy birds of the East Indian and South Pacific archipelagos, characterized by a large but rather slender bill, curved to the pointed tip, and with the lateral margins nearly smooth; the weakness of the lower mandible and the absence of prominences on the palate, and their softer tongue, often furnished with a pencil of bristles, show that their natural food is soft pulpy fruits and the juices of plants and flowers, and not the hard nuts and seeds eaten by most other parrots. The tail is generally of moderate length, rounded or graduated; the legs stout, and the wings long and pointed; the prevailing color is a brilliant scarlet. In the typical genus *lorus* (Brisson), embracing about half a dozen species found in Borneo, the Moluccas, and New Guinea, the wings are moderate, with the 2d and 8d quills longest; feathers of the tail broad and rounded. One of the handsomest is the purple-capped lory (*L. domicella*, Briss.), about a foot long; the color is rich scarlet, with a yellow color on the breast, purplish crown, greenish wings with a bluish violet flexure, bluish green thighs, and orange yellow bill; it is highly esteemed for its beauty, activity, docility, and powers of articulation. The black-capped lory (*L. tricolor*, Steph.), about the size of a pigeon, is scarlet and violet, with black crown, green wings, and tail varied with red, green, and violet; it pronounces very distinctly the word "lory," which has given the name to the subfamily. The crimson lory (*L. cardinalis*, Bodd), 12 inches long, has the edge of the shoulders violet, the tail long, and the bill reddish. The blue-tailed and scarlet lory (*L. caruleatus*, Bechst., and *L. garrulus*, Linn.) are sufficiently characterized by their names. The Papuan

lory has a very long wedge-shaped tail, especially the median two feathers, and is put by Wagler in his genus *charmocyna*; this, the *O. Papuensis* (Wagl.), is a very elegant bird, the ground color of the plumage being brilliant scarlet; the top of the head, nape, lower back, rump, and tibiae deep azure; sides of breast and thighs rich yellow; wings green, as also the basal half of the tail; the tips of the tail feathers saffron yellow. In the genus *eos* (Wagl.) the lateral margins of the bill are sinuated, the wings long, with the first 8 quills nearly equal and longest, tail lengthened and wedge-shaped, with the feathers narrowed at the end. In this genus would come the Indian lory (*E. Indica*, Wagl.), in which the scarlet color is variegated with violet, the crown, abdomen, and tail blue, and the quills yellowish brown. The Borneo lory (*E. rubra*, Wagl.) has a purplish tinge on the back and tail, the quill and tail feathers tipped with green, the scapulars blue, and the breast sometimes yellowish. The scaly lory (*E. squamata*, Bodd) has the scarlet undulated with blackish, giving it a scaled appearance. The genus *coriphilus* (Wagl.) has a slender bill with sinuated margins, long wings, and tail lengthened and graduated. The species inhabit the islands of the south Pacific, living principally on the fruit of the banana, and making their nest in the highest cocoa palms. The *O. Kuhl's* (Wagl.) is one of the handsomest of the family, but wild and timorous in its disposition, with a weak and hissing voice; the prevailing color is blood red, with the vent and upper tail coverts sulphur yellow; hind neck, back, and wings yellowish green; forehead and crown green, with a double occipital crest of violet purple.—In the genus *coelestus* (Wagl.) the bill is large and strong, much higher than broad, with the lateral margins dentated; the wings long and pointed, and tail moderate and nearly equal. The largest and most elegant species is the *E. grandis* (Wagl.); the bill is black, the head and upper neck crimson; lower parts lilac purple; back purplish scarlet; bend of wings and outer web of quills blue, and vent yellow. These gaudy birds inhabit the Moluccas and New Guinea.

LOS ANGELES, a S. co. of California, on the Pacific, drained by the San Gabriel, Los Angeles, and Santa Anna rivers; area, about 4,000 sq. m.; pop. in 1852, 8,329; in 1856, about 15,800. The surface is generally mountainous, with broad and fertile valleys. Recent explorations have developed the existence of gold, silver, copper, and other valuable minerals. It promises to be one of the most extensive and productive grape-growing districts in the world. The number of grape vines in 1856 was 726,000, and in 1858, 1,650,000; the vintage of 1857 yielded 350,000 galls. of wine, and 5,000 galls. of brandy; that of 1858 was estimated at 500,000 galls. of wine. One company cultivates a vineyard of 1,200 acres. There are 7 grist mills, 2 saw mills, a foundery, distillery, and tannery. There are hot springs, recommended

for medicinal properties, at the mission of San Juan.—LOS ANGELES, the capital, is situated on the Los Angeles river, 30 m. from its mouth, and 350 m. S. S. E. from San Francisco; pop. in 1850, 1,610. It was founded in 1781, and called Puebla de los Angeles, "city of the angels," from the excellence of its situation and climate.

LOS HERREROS. See BRETON DE LOS HERREROS.

LOSSING, BENSON JOHN, an American author and engraver, born in Beekman, Dutchess co., N. Y., Feb. 12, 1818. He was educated at a district school, and in 1826 was apprenticed to a watchmaker in Poughkeepsie. He subsequently entered into partnership with his employer, but in the autumn of 1835 relinquished the business, and became joint owner and editor of the "Poughkeepsie Telegraph," a leading country newspaper. He also commenced the publication of a semi-monthly journal of a literary character, called the "Poughkeepsie Casket," with a view of illustrating which he studied engraving under J. A. Adams of New York, and drawing in the school of the American academy of design in the same city. He soon after settled permanently in New York as an engraver on wood, and at the same time edited and illustrated the "Family Magazine." His connection with his newspaper enterprises in Poughkeepsie, however, continued until 1841, his editorial duties being performed at night and early in the morning. In 1841 appeared his first publication, "An Outline History of the Fine Arts" (18mo.), forming No. 103 of Harper's "Family Library," followed in 1847 by an illustrated work entitled "Seventeen Hundred and Seventy-Six" (8vo.), and in 1848 by "Lives of the Signers of the Declaration of Independence" (12mo.). In the latter and subsequent year he edited "The Young People's Mirror." In 1848 he projected the plan of his "Pictorial Field Book of the Revolution," which was issued in numbers in 1850-'52, forming 2 8vo. volumes, with more than 1,000 illustrations by himself. In the preparation of this work, which is remarkable for the minute and accurate information which it conveys, the author travelled at different times upward of 9,000 miles, visiting every important battle field of the revolution, and making sketches on the spot. Among his remaining works are an "Illustrated History of the United States for Schools and Families" (12mo., 1854; enlarged ed. 1856); "Our Countrymen, or Brief Memoirs of Eminent Americans" (12mo., 1855; enlarged ed. 1857); "Primary History of the United States" (12mo., 1857); "Mount Vernon and its Associations," illustrated by himself (4to., 1859); "Life and Times of Philip Schuyler" (2 vols. 12mo., 1860); and "Life of Washington" (8 vols. 8vo., 1860). He is now (1860) engaged upon elaborate illustrated works on the war of 1812, and the French empire in America. He has been a frequent contributor to the periodical literature of the day, and has furnished for "Harper's Magazine" a series of illustrated articles on American biography. He is now contributing

a series of articles to the London "Art Journal" entitled "The Hudson from the Wilderness to the Sea," illustrated from his own drawings.

LOT, primarily, that which falls to any one as his portion or destiny; more usually, a die or any thing else employed to represent a person's allotment in the determination of fortunes and events by chance. This method of divination, in some form, and for different purposes, has been almost universally known. Among the ancient Hebrews, the land of Canaan was divided by lot, as were the cities which were distributed among the priests and Levites. The casting of lots is also mentioned in connection with other important private and public transactions, but its mode cannot be fully determined. The Greeks and Romans were accustomed to divine auguries from lots, by having each of them marked with a prophetic verse or other inscription. They also opened the works of the poets, as Homer, Euripides, or Virgil, at hazard, and regarded the passage on which their eye first fell as an oracle. The use of the Bible in this latter method was not uncommon during the middle ages.

LOT, a river of France, which rises in the department of Lozère on the W. of the Cévennes, flows through the departments of Aveyron and Lot, and joins the Garonne at Aiguillon, in Lot-et-Garonne, after a course of about 280 m., of which about 180 m., commencing at Entraigues, are navigable. Its chief affluents are the Oulagne, Truyère, and Salle on the right, and the Dourdou and Diège on the left.

LOT, a S. W. department of France, in the old province of Gascony, drained by the rivers Lot and Dordogne, bounded N. by Corrèze, E. by Cantal and Aveyron, S. by Tarn-et-Garonne, and W. by Lot-et-Garonne and Dordogne; area, 2,020 sq. m.; pop. in 1856, 293,783. The surface is mainly an extensive plateau of limestone, traversed in all directions by ridges of hills, and toward the E. abutting on the mountains of Cantal. The soil is fertile, and the chief productions are wheat, maize, barley, oats, and fruit, especially prunes, the drying and preparation of which form an important branch of industry. The culture of the white mulberry and the rearing of silkworms are extensively prosecuted. Minerals and manufactures are of little importance. Capital, Cahors.

LOT, son of Haran, and nephew of Abraham, lived about 2000 B. C. His history is related in Gen. xi.-xix. With his grandfather Terah and his uncle Abraham he went from Ur of the Chaldees to Haran, and thence with the latter to Canaan. Here quarrels arose between the shepherds of Abraham and those of Lot, because they had not room enough together for their increasing flocks. Abraham proposed a separation, and generously left to his nephew the choice of the region. Lot chose for himself the well watered region of the Jordan, and his flocks pastured as far S. as Sodom. Thus he was involved in the fate of the kings of that region, when they strove to make themselves indepen-

dent of Ohedorlaomer, the king of Elam; he was made a prisoner with them, but rescued and brought back by Abraham. He now fixed his abode at Sodom, and seems to have occupied a high social or official position there. He alone with his wife and two daughters escaped from the destruction of Sodom, but his wife was soon after turned into "a pillar of salt" for looking back with regret upon the guilty city. Lot went first with his two daughters to Zoar, and thence fled to the neighboring mountains and dwelt with them in a cave. His daughters, apprehensive lest their race might die out with them, made their father drunk with wine, and became, by him, the mothers of Ammon and Moab, the progenitors of the Ammonites and Moabites. Of the further history of Lot nothing has been recorded.

LOT-ET-GARONNE, a S. W. department of France, in Gascony, taking its name from its two principal rivers, bounded N. by Dordogne, E. by Lot and Tarn-et-Garonne, S. by Gers, and W. by Landes and Gironde; area, 2,050 sq. m.; pop. in 1856, 340,041. The surface is an elevated and undulating plain, furrowed with valleys, each occupied by a stream. The soil is generally fertile, but there are sterile sandy districts, or *landes*, and marshes. Wheat, maize, rye, tobacco, hemp, and fruit are the principal productions. The cork tree is extensively grown, and supplies material for the most important employment, cork cutting. Capital, Agen.

LOTHAIRE I., emperor of the West, born in 796, died in Prüm, Sept. 29, 855. When in 817 his father Louis le Débonnaire shared the empire with his 3 sons, Lothaire, Pepin, and Louis, the first received the largest portion, and the right of suzerainty over his brothers. In 823 he was crowned king of Italy by the bishop of Milan, and afterward received the imperial crown from Pope Pascal. After the birth of Charles the Bald, and the bestowment upon him of a domain at the expense of his elder brothers, Lothaire excited Pepin and Louis to revolt, and twice dethroned his father, in 830 and 833. He became emperor on the death of his father, but was involved in disputes with his brothers Louis and Charles, and was defeated by them in the battle of Fontenay, June 25, 841. By the treaty of Verdun in 843, he received Italy, Burgundy, and a district in the east of France, which was afterward called Lotharingia or Lorraine. During the wars of Lothaire the Normans plundered the coasts of the North sea, the Saracens devastated his Italian provinces, and the clergy and barons greatly extended their power. After dividing his states among his 3 sons, the emperor became a monk in the convent of Prüm, in the Ardennes highlands, and died 6 days after being received.

LOTTERY (Ital. *lotteria*, a game in which the lot, *lotto*, decides), a sort of gaming contract, by which, for a valuable consideration, one may by favor of the lot obtain a prize of a value superior to the amount or value of that which he risks. In its best and most frequent

application, the word describes those schemes of this nature which are conducted under the supervision and guaranty of government, and the proceeds of which are devoted to public objects. Almost all modern states have, at some period of their history, employed lotteries as a means of revenue. But though they supply a ready mode of replenishing the public treasury, they have always been found to exert a mischievous influence upon the people. The poor are invited by them rather than the rich. They are diverted from persistent labor and patient thrift, by the hope of sudden and splendid gains; and as it is the professed principle of these schemes to withhold a large part of their receipts, a necessary loss falls upon a class which of all in the community can least afford to bear it. Between the years 1816 and 1828 the French government derived from lotteries an annual income of 14,000,000 francs. A few years ago the government suppressed them, and in January of the next year 525,000 francs more were found to be in the savings banks of Paris alone than in the same month of the preceding year. In other European states government lotteries are still maintained. They have become an almost indispensable source of revenue; and they are defended by the argument that as the passion for play is irrepressible among the people, and their money would otherwise be invested in foreign or in secret and less fairly managed schemes, the state may well assume the conduct of lotteries at home; that under its supervision the evils attendant upon them are diminished, and their earnings are devoted to the public welfare. Similar to the lottery of modern times was the mode sometimes adopted among the Romans in distributing the *congiaria* among the people; instead of the usual direct donations of corn, wine, and oil, tickets were issued which entitled the holders to various shares in these supplies. A closer resemblance is found in the favorite custom of Augustus, which was imitated by his successors, of distributing at his feasts sealed packets (*sortes conviviales*), similar in appearance, but containing orders for articles of very different value. The same practice existed among the feudal princes. In the middle ages the same mode was adopted by the Italian merchants in the disposition of their wares. A money lottery, called the *lotto*, was instituted at Florence in 1530 for the benefit of the state; and in Venice a half century later lotteries existed under public control.—Two kinds of lottery may be distinguished, the Genoese or numerical, and the Dutch or class lottery. The former originated in Genoa. The election by lot of 5 members of the grand council afforded the subject of wager. The names of 90 candidates were thrown into a wheel of fortune, and bets were made upon the result of the drawing. Numbers were afterward substituted for the names of the councillors, and the city undertook the direction of the game. The players fixed upon certain numbers, wagering that one, two, or more of them would be drawn among the 5,

or that they would appear in a certain order. The lottery maintained itself by calculating nicely, according to the doctrine of probabilities, the chances of success, and then adjusting the prizes so as to insure a profit to the bank. The prizes were larger as the chances of success were less; thus in the class of chances which required 2 out of the 5 numbers drawn, one ticket in 400 may win. In Austria, where this sort of lottery is used, the holder is paid with 240 times, and in Bavaria with 270 times the price of his ticket. In the *quaterne*, which requires 4 of the 5 numbers, the probabilities of success are as 1 to 511,088; and the winner receives in Austria 60,000 times, and in Bavaria 64,500 times the value ventured. Out of Italy this sort of lottery was first established in Vienna in 1752, and in Berlin in 1768. It has been observed that it is most employed in Catholic countries. The origin of the second kind, the class lottery, has been referred to the Roman *congiaria*, already mentioned; but with more correctness probably to the lotteries of merchandise established at several places in Europe during the middle ages, and the invention of Italian merchants. In this species, the number and value of the prizes are regularly estimated, all the ticket holders are interested at once in the play, and chance determines whether a prize or a blank shall fall to a given number. The drawing generally takes place at several different times, and the largest prize is withheld till the drawing of the last class. The lottery is supported by a fixed percentage deducted from each prize.—The first lottery in France was established in 1539. Francis I. gave his assent to it, on condition of a surrender to the crown of a tax on every lot. It received the name of *blancs* from the white tickets which indicated the blanks. A law promulgated in the 6th year of the republic (1798) prohibited all private or foreign lotteries, and from that date the *loteries nationales* displaced all others. They were instituted in all the large cities. In 1800, 3 or 4 drawings took place within the state every week. This government monopoly lasted until 1836. A law of May 21 of that year abolished all lotteries, and included among them all sales of merchandise or other property, movable or immovable, effected by lot, and all associations whatever offered to the public in which the lot is the principle of decision. An infraction of these prohibitions is punished by imprisonment of from 2 to 6 months and by fine of from 100 to 1,000 francs. In case of a second conviction for the offence, the punishment may rise to double the maximum. The offender may also be deprived for 5 or 10 years of the exercise of some of his civil rights. The law confiscates the property offered in the lottery, and enforces severe penalties against its agents and managers, whether the scheme be French or foreign. Lotteries of personal property, the proceeds of which are to be devoted to charitable objects or to the encouragement of art, may be authorized by government.—In Germany the

first class lottery was opened at Nuremberg in 1699. This kind seems to be the one most used in that country at the present time. The lotteries are controlled by government, and their profits applied to the support of workhouses and similar institutions, or to charitable objects. The principle of the system is to return in prizes the money received, deducting a small profit and the cost of management, which discount amounts usually to about 18 per cent. Money lotteries are most frequent, though lotteries of goods are often offered. The latter are very attractive, because each ticket holder receives some piece, though it be of slight value; they require like all others the approval of government. Whole estates, which have become heavily encumbered, have been sometimes offered as prizes. The premium lotteries of Germany are peculiar to that country. Governments issue proposals for loans, offering to capitalists a small percentage upon the amount furnished, by way of interest, and perhaps a like amount in premiums to be awarded by lot. The hope of winning the prizes secures bidders for the loans at a low return of interest, who would not have supplied the funds at the usual rate.—The earliest English lottery of which there is any record was instituted in 1569. The drawing took place at the west door of St. Paul's cathedral; 40,000 shares were sold at 10s. each. The prizes consisted of plate, and the profits were devoted to the repair of the harbors of the kingdom. During the following century the passion for this sort of gambling rapidly increased. In Queen Anne's time lotteries were denounced as "public nuisances." In 1612, by permission of James I., a lottery was drawn for the profit of the Virginia company, and produced about £80,000. The first parliamentary lottery was established in 1709. From this time onward, during the period in which the English state lotteries were carried on under act of parliament, the usual plan was to distribute in prizes of different magnitudes an amount equal to £10 for each ticket; the profit consisted in the advance upon this value paid by contractors, who sold directly to the people, and often by dividing tickets into parts. The prizes were generally funded in annuities. Thus in 1747, when £1,000,000 was raised by the sale of 10,000 shares, the prizes were paid in perpetual annuities at 4 per cent. In 1778 the number of lottery offices in the whole kingdom was 400. In that year an act was passed obliging every person who kept such an office to take out a yearly license and to pay £50 for it; this measure soon reduced the number from 400 to 41. But the evils which in every country have been found attendant on lottery speculations attracted in 1819 the attention of the English people, and the subject was thoroughly discussed in parliament. The mischievous influences of the system were admitted, but for the time at least all other arguments yielded to that of its necessity as a source of revenue. But in 1823 public sentiment had become so far adverse to the further approval of these institu-

tions, that a lottery was only tolerated in that year because it was to be the last. The act which sanctioned it was accompanied by provisions for the future suppression of lotteries, and for rendering illegal the sale within the kingdom of any tickets or shares of tickets in foreign projects of this character.—In the United States, the lottery has been from the earliest settlement of the country a familiar means of raising funds, which in this country could have been secured in no other mode so easily if at all. The Virginia company, as has already been mentioned, derived a large profit from English lotteries, and the influence of them extended gradually to the eastern colonies; for it is reported that an assembly of ministers at Boston in 1699 denounced the lottery as "a cheat," and its agents as "pillagers of the people." Generally, however, lotteries enjoyed a fair reputation, and certainly were soon extensively employed throughout the country, for many important and beneficial purposes. Colleges have been founded, roads made, bridges built, ferries improved, and hospitals erected by the aid of lotteries. In 1838 a society was formed in Pennsylvania which advocated their suppression. In July, 1884, the society issued an address to the public, setting forth its objects and views. It is to the efforts of this society that we should mainly attribute the action of most of the states in prohibiting the further establishment of lotteries. Where they are not especially authorized (and in some states the constitution expressly forbids the legislature to authorize them), the parties concerned in them are, in nearly all the states, subject to the imposition of heavy penalties. There exist in the state reports many cases where the provisions of state statutes concerning lotteries have been construed by the courts, but these decisions are necessarily of a particular character, and no important general principles can be derived from them. In Tennessee and Virginia, the acts abolishing lotteries have been by express decisions pronounced constitutional. In Massachusetts, a clause in such an act authorizing a search for tickets provided for the purpose of drawing a lottery is not held to be inconsistent with that article of the bill of rights which declares that every subject has a right to be secure from all unreasonable searches and seizures of his house or person. In New York and Pennsylvania lotteries are declared to be public nuisances, and they may therefore be indicted as such. The schemes known as art unions are held to be lotteries by express decisions. In the language of the court in New York: "These associations distribute a small number of prizes among a great number of persons. The prizes and blanks are drawn in the same manner as in other lotteries. The intention of these schemes is to sell works of art for more than they can be sold for at private sale, and this is to be brought about by an appeal to the universal passion for playing at games of chance. They have all the attributes and elements of lotteries."

LOTUS, the name given to a rich fruit known to the ancients, but concerning which much dispute now exists. Several distinct species of plants bear the name, and no fewer than 11 to which the word is applied are enumerated by Fée (*Flore de Virgile*, Paris, 1822). The weight of testimony seems to rest upon the *sieyphus lotus* of Linnaeus, which is found indigenous in Tunis and in other parts of Africa. This seems to agree best with the account of Polybius, who describes it as a thorny shrub, which grew in that region of Africa known as Syrtica, with berries of the size of an olive, which were first white and afterward tinged with red, and which had a taste like dates. According to Shaw ("Travels in Barbary and Levant," London, 1757), the *lotus arbor* of the ancients appears to be the same plant with the *seedra* of the Arabs, a shrub very common in Jereeda and other parts of Barbary. It has the leaves, prickles, flowers, and fruit of the *sieyphus* or *jujab*, only with this difference, that the fruit here is round, smaller, and more luscious, and the branches are neither so jointed nor crooked. The fruit is still in much repute, tastes something like gingerbread, and is sold in the markets all over the southern districts of that region. The Arabs call it *aned enta el seedra*, or the *jujab* of the *seedra*; and Olaf Celsius had so high an opinion of it, that he described it as the *dudaim* (mandrake) of the Scriptures. A species of *sieyphus*, which grows into a large tree, with yellow, farinaceous berries of a delicious taste, was met with by Mungo Park in the interior of Africa; the berries being exposed to the sun and then pounded, the meal was made into cakes for food. There are several species of *sieyphus* which are eaten in India. One kind, whose fruit is of the size of a plum and its taste mild and sweet, is much esteemed. Another species (*Z. jujuba*, De Lamarck) is described in Hooker's "Journal of Botany" as a shrub which bears the fruit known in the island of Mauritius by the name of *masson*. Its height is there from 25 to 30 feet; its bark is grayish, thick, and cracks in age, having deep crevices on the trunk; its branches are spreading and drooping, and the young branches as well as the under side of the leaves are covered with a cottony, whitish, and sometimes rust-colored down; the shape of the leaves is oval, rounded in some varieties, elongated in others, finely toothed along their edges, blunt, of a glossy green above and marked with 3 longitudinal main nerves; spines growing in pairs, one large, straight, and sharp-pointed, the other smaller, stronger, and hooked; flowers axillary, greenish, arranged in small tufts; calyx 5-toothed, petals 5, unguiculate; stamens with the filaments curved inward; a fleshy disk that surmounts the ovary is tipped with two styles. The flowers appear in January; the fruit, ripening in June and July, and continuing till the beginning of September, consists of fleshy drupes of an ovoid or roundish form, enveloping a bony nut of two monospermous cells, one of which

is frequently abortive. In shape, size, and color, the fruit resembles a ripe Canada plum. This species grows readily in the most arid soil. The *sieyphus* belongs to the natural order of *rhamnaceae*, typically represented in the buckthorn (*rhamnus catharticus*), and with other co-species bearing fruit which is violently purgative, though highly spoken of in the treatment of dropsy. The berries of *Z. orthacanthus* are employed by the natives of Gambia in making a sort of wine; but the fruit of *Z. Baclei* is regarded as poisonous. The bark of several species is medicinal.—Munby (*Flore de l'Algérie*, &c., Paris, 1847) considers *nitraria tridentata* as the true lotus tree of the ancients, a shrub found in the deserts of Lowasin near Tunis, producing a succulent fruit of stimulating qualities. The lotus of the Egyptians is the *nelumbium speciosum*, a fine aquatic plant, sacred to Osiris and Isis, and regarded in Egyptian delineations as signifying the creation of the world. The blue water lily of the Nile (*nymphaea caerulea*) occurs also in the decorations upon the ancient Egyptian remains; and both these beautiful flowers appear also to be favorite subjects for modern Chinese art.—The word *lotus* is affixed to a genus of modern botany, comprising plants of the natural order of *fabaceae*, with pretty, papilionaceous flowers, and natives of widely separate regions of the globe. The claw-podded lotus (*L. ornithopodoides*) belongs to Sicily—a small procumbent species, with yellow flowers and very odd-looking legumes clustered into a figure like the foot and claws of a bird. The *L. Jacodæus* of the flower seed catalogues, a native of the Cape Verd islands, is a graceful, upright little plant, with numerous, downy, narrow leaves, and very conspicuous dark purplish black flowers. It succeeds well in the greenhouse, flowering nearly all the year round. The pods of *L. edulis* are eaten by the poorer inhabitants of Candia and Barbary, and the young and tender pods of *L. gebelia* (an Arabic name) are eaten by the Arabs. The greater (*L. major*) and the common lotus of Great Britain (*L. corniculatus*) are both recommended to be sown with white clover in laying down lands to permanent pasture. Sinclair in his "British Grasses" speaks of them as well suited for meadows where the soil is moist. According to Burnett, the leaves of the latter species become blue in drying, and would probably afford a dye like indigo, which article is produced from plants closely allied. Two or three species of lotus reach to the size of shrubs having ligneous stems; they are however natives of warm climates, and not hardy.—Homer (Od. ix. 84 *et seq.*) describes the *Loto-phagi* or lotus-eaters as a people on the N. coast of Africa, who were visited by Ulysses in his wanderings, and who endeavored to detain his companions by giving them the lotus to eat. Whoever ate of this fruit wished never again to depart nor to see again his native country. This poetical idea is known also to the Arabs, who call it the "fruit of destiny," which is to be eaten in paradise, and has been exquisitely

wrought out by Tennyson in his poem "The Lotus-Eaters." The lotus is a symbolical and favorite flower in Buddhist ceremonies of worship.

LOUDON, a N. E. co. of Va., separated from Md. by the Potomac; area, 460 sq. m.; pop. in 1850, 22,079, of whom 5,641 were slaves. The surface is hilly, having the Blue Ridge on the N. W. border. The Kittoctan mountain is in the middle of the county. The soil varies, but a large portion is fertile. The productions in 1850 were 568,980 bushels of wheat, 749,428 of Indian corn, and 60,228 lbs. of wool. There were 88 churches, and 1,708 pupils attending public schools. Capital, Leesburg.

LOUDON, or LAUDON, GIDEON ERNST, baron, a field marshal in the Austrian service, born in Trotzen, Livonia, Oct. 10, 1716, died in Neutitzschein, Moravia, July 14, 1790. He was descended from an ancient Scottish family settled for several centuries in Livonia, and at 15 years of age entered the Russian military service, from which he retired after the peace of Belgrade in 1739, with the rank of lieutenant. He subsequently applied with several of his companions in arms to enter the service of Frederic the Great of Prussia; and after much trouble procured an interview with the king, who turned from him with aversion, exclaiming to his courtiers: "The physiognomy of this man does not please me." Repairing to Vienna, he received in 1742 a captain's commission in Trenck's corps of pandours, and fought with reputation in the campaigns of Bavaria and the Rhine in 1742-'4. At an affair of outposts near Saverne he was wounded and taken prisoner, but was exchanged and participated in the second Silesian war against Prussia. Disgusted with the cruelties of his commander, he left the corps, and after the peace of Dresden remained for several years in obscurity and poverty. Having at length procured a major's commission in a regiment stationed on the Turkish frontier, he married, embraced the Catholic religion, and devoted much time to the study of mathematics and tactics. At the breaking out of the 7 years' war he was appointed lieutenant-colonel of a partisan corps charged with supporting the movements of the Austrian army, and in a single year, by his activity, courage, and capacity, acquired the rank of general, notwithstanding that the battles in which he participated were generally disastrous to the Austrians. His commission of general having fallen into the hands of Frederic, the latter sent it to him with a congratulatory letter. In 1758 he contributed powerfully to raise the siege of Olmütz, and harassed the retreat of Frederic, receiving for his services the rank of lieutenant field marshal. In the succeeding year he crossed the Brandenburg frontier to cover the operations of Marshal Daun, and ended a series of brilliant exploits by routing the Prussians at the decisive battle of Kunersdorf, Aug. 12, 1759, in which Frederic lost 200 cannon and 20,000 men.

Placed in command of an army of 80,000 men with the rank of *Feldzeugmeister*, he gained the battle of Landshut, June 29, 1760, took the fortress of Glatz, and covered the retreat of Daun after the Austrian defeat at Liegnitz with so much skill that Frederic exclaimed: "We must learn from London how to retreat; he leaves the field like a conqueror." He crowned his achievements in the 7 years' war by taking by assault, without previous investment, the important city of Schweidnitz, filled with provisions and munitions of war. During the peace which succeeded he was employed with credit in various public capacities, and in 1766 became a member of the aulic council of war, and in 1769 commandant general of Moravia. For a number of years Loudon lived in retirement at his estate near Vienna, devoting himself with enthusiasm to his favorite studies; but upon the breaking out of the Bavarian war of succession he took the field in Bohemia, and by a skilful concentration of his forces on the Isar prevented a junction between Prince Henry of Prussia and Frederic, thereby securing a decided advantage to the Austrians. His military career terminated with the campaign against the Turks in 1788-'9, the first act of which he brought to a successful conclusion by the capture of Belgrade. He died soon after removing to his head-quarters in Moravia, whither the emperor Leopold had sent him after the Turkish war. He was a man of true piety and modesty, simple in his manners and tastes, wholly averse to securing influence by flattering the weaknesses of the great, and was beloved by his troops.

LOUDON, JOHN CLAUDIUS, a Scottish horticulturist and author, born at Cambuslang, Lanarkshire, April 8, 1783, died in London, Dec. 14, 1848. He was educated at Edinburgh, and in 1803 went to London, where he engaged in landscape gardening, and published several essays on that and kindred subjects. In 1806, with his father, he rented a farm in Middlesex, and subsequently a still larger one in Oxfordshire, where he gave instruction to agricultural pupils. In 1812 he retired with a competency, and made a journey of professional observation in Germany and Russia. In 1814, finding that the greater portion of his property had been lost through injudicious investments, he once more applied himself to landscape gardening, and determined to undertake the compilation of a large work on horticulture. In order to perfect his knowledge of continental gardening, he visited France and Italy in 1819. In 1822 his "Encyclopædia of Gardening" made its appearance, and met with an extraordinary sale. In 1825 his "Encyclopædia of Agriculture" was published; in 1829, his "Encyclopædia of Plants" (of which, however, little more than the plan was his own); and in 1838 his *Arboretum et Fruticetum Britannicum*, or "An Account of all the Trees and Shrubs, whether Wild or Cultivated, of Great Britain." This work, the most laborious and expensive of all his literary un-

dertakings, proved a source of great pecuniary embarrassment to its author, involving him in difficulties which preyed on his health and accelerated his death. He produced various other works, among them an "Encyclopædia of Cottage, Farm, and Villa Architecture," which has become a handbook with all rural and suburban builders in England. In 1826 Mr. Loudon established the "Gardener's Magazine," which he continued till his death; in 1828, the "Magazine of Natural History;" in 1834, the "Architectural Magazine," suspended in 1838; and in 1836, the "Suburban Gardener." All these he edited simultaneously with the progress of his *Arboretum*, notwithstanding that he had for years suffered under great bodily infirmities, and had lost by disease his right arm and the use of all but two fingers of his left hand, being thus obliged to employ an amanuensis.—JANE, an English authoress, wife of the preceding, born near Birmingham in 1808, died in London, July 18, 1858. Her father, Mr. Thomas Webb of Ritwell hall, having met with reverses of fortune in building speculations, she turned her attention to literature, and published in 1827 a novel entitled "The Mummy," containing a quasi-prophetic description of the steam plough, which, attracting the attention of Mr. Loudon, led to an acquaintance which in 1830 resulted in their marriage. Mrs. Loudon contributed to many of her husband's works, and after his death prepared new editions of some of the most important of them. She received a pension of £100 from the civil list for services rendered to science by her husband and by herself. Among the works which she wrote or compiled herself are: "Gardening for Ladies" (London, 1840; new ed. 1849); "Ladies' Companion to the Flower Garden" (1841; 5th ed. 1847); "British Wild Flowers" (1846); and "Botany for Ladies" (1849).

LOUGH, JOHN GRAHAM, an English sculptor, born in Greenhead, Northumberland, in the early part of the present century. He is the son of a small farmer, and evinced his taste for art in childhood by teaching himself drawing and modelling. Being advised to establish himself in London, he received much encouragement from Haydon, and in 1827 sent to the exhibition a colossal statue of Milo, which was greatly admired for its thoroughly Greek spirit, and which was subsequently executed in marble for the duke of Wellington. In 1834 he visited Italy, and went through a course of self-instruction for 4 years, executing in the mean time commissions for the dukes of Northumberland and Sutherland, and other wealthy patrons. Upon returning to England he produced "A Boy giving Water to a Dolphin," "A Roman Fruit Girl," "Bacchanalian Revel," "Hebe Banished," and a well known group called "The Mourners." He subsequently gave more attention to portrait busts and monumental statues, chief among which are the statues of the queen and Prince Albert, the marquis of Hastings, and Robert Southey, and an admir-

able posthumous bust of the late Prof. Edward Forbes. Among his later ideal creations are the "Fighting Horses," the "Jealousy of Oberon," "Ariel," "Puck," "Titania," and the colossal marble group of "Satan Subdued by the Archangel Michael," considered his finest achievement.

LOUIS I., LE DÉBONNAIRE, or THE PIOUS, king of the Franks and emperor of the West, born in Casseneuil, Aquitania, in 778, died in Ingelheim, near Mentz, June 20, 840. He was the son of Charlemagne, received when 8 years old the title of king of Aquitania, and in 813 was associated in the imperial dignity with his father, whom he succeeded in the following year. On his accession he permitted the Saxons, whom Charlemagne had transported into Gaul, to return to their own country. Animated by justice and full of good intentions, he tried at first to reform his own family, the court, the clergy, and the provincial administration; but his vacillating disposition unfitted him for the task, and finally brought misery upon him and disorder upon the empire. In 817, yielding to the request of his sons, he shared with them the government of his vast dominions, giving Aquitania to Pepin, Bavaria to Louis, and Italy to Lothaire. His nephew Bernard, being thus deprived of the latter kingdom, which he had inherited from his father, revolted against him, was defeated, taken prisoner, had his eyes put out, and died in consequence. The emperor, under the impulse of remorse and the reproaches of the bishops, subjected himself to a public penance in a national assembly at Attigny in 822. Having had a fourth son by his second wife, Judith of Bavaria, he formed for him, at the diet of Worms in 829, a new kingdom out of the countries he had already distributed among the 8 eldest; these, being dissatisfied with this arrangement, revolted against their father, whom his partiality to his wife and her reputed paramour Bernhard, duke of Septimania, had made unpopular. They seized his person, and had him deposed, while Judith was confined to a convent. Bernhard escaped. The people of Germany stood by the emperor, and in 830 restored him to his throne in a general assembly at Nimeguen. Another revolt broke out in 833, Pope Gregory IV. siding with the insurgents. Louis marched against them, but was betrayed by his own army at Rothfeld, and delivered up to Lothaire, who, without the consent of his brothers, subjected the unhappy old man to indignities, had him brought before a council at Compiègne, over which his personal enemy, Ebbo, archbishop of Rheims, presided, charged him with a number of crimes which he was obliged to confess aloud, and finally caused him to be degraded. Louis and Pepin, moved partly by pity, partly by jealousy of their brother, then took their father's part, and restored to him the crown in the states-general held at Thionville in 834. Louis at once forgave Lothaire, who came to make submission. His partiality for his youngest son Charles, to whom he wished

to bequeath more than his full share of territory, again involved him in trouble. In the diet of Worms (839), Pepin being dead, the emperor proposed to divide his whole empire between Lothaire and Charles, upon which Louis, aided by his nephew Pepin II., took arms again. Louis marched against them, but before reaching the rebels he was seized with an illness which proved fatal. With the reign of Louis le Débonnaire commenced the dissolution of the Carolingian empire.

LOUIS VI., THE FAT, the 5th Capetian king of France, born in 1078, died Aug. 1, 1137. The son of Philip I. by his first wife, Bertha of Holland, he was pursued by the hatred of his stepmother, Bertrade of Montfort, and obliged for a while to seek refuge in England. In 1100 he was associated in the government with his father, whom he succeeded in 1108. Full of spirit and ambition, he aimed at placing the royal authority upon a solid basis, and waged incessant war against the troublesome vassals of the crown, including his own brother Philip, count of Mantes. The lords of Mont-l'Héry and Coucy, and the counts of Montfort and Montmorency, also felt the weight of his arms. He tried to secure the duchy of Normandy to William Cliton, son of Robert Courteheuse, but failed in the attempt, being defeated at Brenneville in 1119 by Henry I. of England, who had seized upon that duchy. This check would have proved fatal to the power of Louis, had not the clergy armed their parishioners and led them to his support. Peace was finally restored by the council held at Rheims under the presidency of Pope Calixtus II. A few years later, on the death of Charles the Good, Louis invested his favorite William Cliton with the county of Flanders. He had some hand in the communal revolution that distinguished the 11th century, but was guided in this by his interest rather than by any preconceived system, and does not deserve the name of "father of communes" which is sometimes applied to him.

LOUIS IX., king of France, and a saint of the Roman Catholic church, born in Poissy, April 25, 1215, died near Tunis, Africa, Aug. 25, 1270. He was the son of Louis VIII. and his queen Blanche of Castile. His mother was one of the most illustrious characters of the age, distinguished alike for virtue, intellect, and energy; and on the death of her husband in 1226, when her son was 11 years old, she assumed the regency of the kingdom, and, in spite of the most formidable opposition on the part of the great nobles, governed France with vigor and prudence, and educated her son in the strictest principles of Christian piety. Louis, at the age of 19, was married for political reasons to Marguerite, daughter of Raymond Bérenger, count of Provence, a girl of 12 years; but the queen mother kept the young couple separate till the king was 25. In 1241 the count de la Marche, a powerful vassal of the crown, broke into rebellion, and was assisted by Henry III. of England, who landed with a

considerable force at the mouth of the Gironde. Louis marched against the rebels and their English allies, and defeated them at Saintes, which put an end to the war. He treated the vanquished rebels with such clemency and magnanimity that he won their hearts, and had no trouble with his vassals during the rest of his reign. He removed one great cause of the disturbances which had hitherto afflicted the kingdom, by enacting that no noble of France should thereafter hold a divided allegiance, many of the nobles until then holding fiefs of both the French and English kings, and adhering to each in turn as suited their views or interests. The measures of Louis in this instance strengthened the patriotism and national feeling of the French, and removed a frequent occasion of war. A severe check was also put upon the prevalent practice of private war among the nobles by an ordinance called *quarantaine le roi*, which forbade the private redress of injuries for 40 days after they had been committed, and directed that during that interval justice should be administered only by the royal authorities. In 1244 news reached Europe of the conquest of Jerusalem by the Kharizmians, of the treacherous massacre of the Christian inhabitants, and of the defeat and slaughter of the knights templars and hospitalers, after a gallant struggle near Gaza. These tidings greatly excited Christendom; the 7th crusade was proclaimed at the council of Lyons in 1245; and in 1246, during an illness of which he nearly died, Louis assumed the cross. After extensive preparations, he appointed his mother regent, and embarked in Aug. 1248 from Aigues-Mortes, a port which he had founded on the Mediterranean, for Cyprus, the appointed place of rendezvous for his forces, composed of both French and English. Thence in June, 1249, he sailed to invade Egypt, at that time the most powerful of the Mohammedan states, whose conquest was considered a necessary preliminary to that of the Holy Land. His fleet of 1,800 vessels carried 8,000 knights, and a great army of common soldiers. He landed near Damietta, and, the Egyptian sultan being at the point of death and the kingdom in confusion, no serious opposition was made at the outset; and Damietta, which was then populous and strongly fortified, surrendered without resistance. The Nile was low at this season, and had the French marched at once upon Cairo, before the Egyptians had recovered from their panic and the river had begun to rise, there is no reason to doubt that the expedition would have been successful. But Louis lingered for 5 months at Damietta, waiting the arrival of a part of his fleet which had been forced by a tempest to take refuge in a Syrian port. The favorable moment for advance was lost, and when in November the army began to move toward Cairo, its march was impeded by the inundation, the Egyptians rallied in great force, and after a hard-won victory at Mansoura, in

which the king's brother and many other knights were slain, Louis was compelled to retreat toward Damietta, where he had left a strong garrison. His army suffered terribly from pestilence and want of supplies; and being continually harassed by the Egyptians, the king and his forces, about 80,000 in number, surrendered at discretion, April 5, 1250. The prisoners were treated barbarously, but Louis amid all his misfortunes behaved with dignity and resignation. The Egyptians demanded a ransom of 500,000 livres. Louis replied that he would pay that sum for the liberation of his soldiers, but that a king of France could not be valued for money. He offered Damietta in exchange for himself, and he and the remnant of his followers were liberated on the surrender of that city and the payment of 400,000 livres. He set sail for Acre in Syria, where he remained nearly 4 years, negotiating with the Mohammedans and vainly waiting for reinforcements from France. A large amount of treasure sent to him by Blanche was lost at sea. The queen mother herself died in 1252. The king at length, in the spring of 1254, sailed from Palestine with about 500 followers, and reached France after a stormy voyage of 10 weeks. After his return he occupied himself actively in the reform of his kingdom, and displayed high qualities as a legislator. He enacted many just and important laws, and greatly mitigated the harshness of the criminal jurisprudence of France. So scrupulous was his conscience even in affairs of state, that by a treaty concluded with Henry III. of England in 1259 he restored to that monarch, against the urgent remonstrances of his ministers and councillors, the conquests made by Philip Augustus from the English, to which Louis thought he had not inherited a just title. In 1261 he refused the crown of Naples and Sicily, which was offered to him by Pope Urban IV., though when the same offer was subsequently made to his brother Charles of Anjou, he suffered that prince to accept it, and furnished him with men and money for the conquest of Naples in 1265. Three years later he began to prepare for a new crusade, and on July 1, 1270, embarked with 60,000 men for Tunis. On landing he formed a camp amid the ruins of Carthage, where he waited in expectation of forming an alliance with the sultan of Tunis, who, it had been rumored, was disposed to embrace Christianity. A pestilence soon broke out among the French, and Louis, whose health had long been feeble, was seized with the disease and died after a fortnight's illness, having before seen one of his sons expire. His other son and successor, Philip III., who was also at the point of death, recovered and saved the remains of the army. "No name in modern history," says the most recent English historian of France, Eyre Evans Crowe, "has been the object of more profound reverence and more enthusiastic praise than that of St. Louis. Royalists regarded him,

and with justice, as the true founder of the monarchy, and liberals still laud him for having undermined feudalism, and shorn the aristocracy of those privileges which rendered them princes in the land."

LOUIS XI., king of France, the 6th of the house of Valois, and son of Charles VII. by Marie of Anjou, born in Bourges, July 3, 1423, died in Plessis-les-Tours, Aug. 21, 1483. He gave early evidence of a passionate temper and a cruel disposition. In 1436 he married Margaret of Scotland. In 1440 he took part in the aristocratic rebellion known as *La Praguerie*, although he was far from being partial to the nobility. The plans of the insurgents were foiled, and Louis, becoming reconciled to his father, received the province of Dauphiné as his appanage. He participated in several military expeditions, and in 1444 was sent by his father at the head of the "great companies" or *esorceurs* to aid the emperor Frederic against the Swiss, whom he defeated near Basel, but to whom nevertheless, through policy, he granted favorable terms of peace. On the death of his wife (1445), his hostility to his father's mistress, the celebrated Agnes Sorel, caused great trouble at court; he is said to have slapped her in the face, and was afterward charged with poisoning her. In 1446 the disagreement between him and the king caused Louis to retire to Dauphiné, which he governed as an independent principality, evincing uncommon administrative talents. In 1451 he married, notwithstanding his father's opposition, Charlotte, daughter of the duke of Savoy. The quarrel between the king and his son, embittered by interested courtiers, came to such a pitch that Charles VII. marched against the dauphin at the head of a strong army. The latter escaped to Burgundy, where he was welcomed by his uncle Philip the Good, who treated him with the utmost generosity. From his cousin Charles, count of Charolais, afterward Charles the Bold, he received equal kindness. Although repeatedly summoned to return to France, Louis refused to obey; he mistrusted the courtiers, while Charles VII. himself was convinced that his son was continually plotting against his life. This fear hastened his death, and Louis was called to the throne of France, July 22, 1461. Thenceforth he bent all his energies to the destruction of the aristocracy whom he had once supported against his father, and ultimately to that of the very princes of Burgundy by whom he had been protected. In his eagerness to obtain the object of his ambition, his rashness was more than once nearly fatal to him. As early as 1465, a coalition of princes, among whom were his former friend the count of Charolais, the dukes of Brittany and Bourbon, and the celebrated Dunois, was formed against him, with his own brother, the duke of Berry, at their head. Louis fought a drawn battle with them at Mont-l'Héry; but fearing the consequences of a protracted contest, he offered them advantageous terms, giving Normandy to his brother, the cities along the Somme to Bur-

gundy, and offices and pensions to others. The following year he caused this treaty to be annulled by the states-general at Tours, and succeeded in resouing his provinces from the grasp of his antagonists. But in 1467 a new league was formed, headed by Charles the Bold, who had become duke of Burgundy. In the hope of conciliating Charles, the king paid him a visit at Péronne, while his own emissaries were inciting the citizens of Liège to rebellion against the duke. He thus placed himself in the power of this fierce prince, who, enraged at the news he received from Flanders, kept the king in confinement for 8 days, and consented to spare his life only on the most disadvantageous terms. Louis released the duke from all allegiance, gave the county of Champagne to his brother, and was obliged to assist Charles in taking and punishing the very city which he had encouraged to revolt. His only consolation in this circumstance was the vengeance he took upon Cardinal Balua, who had betrayed him; he caused the traitor to be confined for about 11 years in an iron cage. The subsequent policy of Louis was more successful. The treaty of Péronne was of course declared null and void by the states-general at Tours in 1470, upon which a new revolt broke out; but this was frustrated chiefly by the death of the king's brother, which occurred so opportunely in 1472 that Louis was, not without good reason, suspected of having got rid of him by poisoning. Charles the Bold, presenting himself as the avenger of the young prince, invaded the northern provinces of France; but the heroism of the inhabitants of Beauvais stopped his career, and he raised the siege of this town and turned his arms against Lorraine, Alsace, and Switzerland. Here Louis XI. had prepared for him a formidable enemy. Charles was defeated at Granson and at Morat by the Swiss; and when he attempted to revenge himself upon Nancy and the young duke of Lorraine, he was again opposed by the hardy mountaineers, and lost his life in a battle which also witnessed the complete discomfiture of his army (1477). Of the inheritance of Charles, Louis at once seized the duchy of Burgundy proper, Franche Comté, Artois, and the cities along the Somme. Maximilian of Austria, the husband of Charles's daughter Mary, made war upon Louis for the recovery of these possessions. Gaining an indecisive victory at Guinegate (1479), he had finally to yield to the superiority of the king, who by the treaty of Arras (1482) preserved his conquests, partly unconditionally, partly as the dower of young Margaret of Austria, the daughter of Maximilian and Mary, to whom he betrothed his son. Meanwhile he had triumphed over nearly all his other enemies. He had retaken Perpignan from John II. of Aragon, thus preparing the ultimate annexation of Roussillon and Cerdagne to France; and he had in 1475 concluded with Edward IV. of England the treaty of Pecquigny. But above all he had crushed the most troublesome feudal houses; the count of Armagnac fell in 1478, treacher-

ously murdered; the duke of Alençon was in 1474 thrown into prison, where he died; the great constable Louis de Luxembourg, count of St. Pól, delivered up to Louis by the duke of Burgundy himself, was beheaded in 1475; and finally in 1477 Jacques d'Armagnac, duke of Nemours, met the same fate, after being previously subjected to the horrors of confinement in an iron cage. By treaties and inheritance Louis secured the rich patrimony of the house of Anjou, including the provinces of Anjou, Maine, and Provence, beside its claims to the crown of the Two Sicilies. He had thus considerably enlarged the royal domain, and prepared the way for the territorial unity of France. More than any of his predecessors, he strengthened royal authority and made his government respected at home; he had a standing army more numerous than any before in existence, and greatly improved the fortified towns. He tried to give regularity to the civil administration, and in order to secure the punctual transmission of orders to all parts of his kingdom, he established a permanent service of despatch carriers, which was the foundation of the postal system of France. He improved the administration of justice, especially by creating 8 new parliaments, those of Grenoble in 1453, of Bordeaux in 1462, and of Dijon in 1477. He thought even of introducing uniformity in legislation all over France, as well as in the use of weights and measures; but these two fundamental reforms were left to be accomplished 8 centuries later by the French convention. He increased public taxes, but part of the revenue was expended in a way to benefit the nation itself; he gave particular attention to improving public roads and canals; fostered the commercial marine; opened new markets for commerce; brought skilful workmen from Greece and Italy, and encouraged manufactures and mining. He favored the great invention of the 15th century by establishing printing offices at Lyons, Angers, Poitiers, Caen, &c.; and contributed to the diffusion of learning by the establishment of universities at Valence, Bourges, and Besançon. But notwithstanding the services thus rendered to France, and his comparatively mild treatment of the middle classes, he never gained popularity; his craftiness, his perfidious and cruel temper, and his total want of royal dignity, inspired the whole nation with feelings of fear and disgust, amounting to unmitigated hatred; and although Comines insists that he was the best prince of his time, history is unable entirely to rehabilitate his memory. He spent his later years at the castle of Plessis-les-Tours, under the absolute control of his physician Cottier; and shortly before his death he summoned St. Francis of Paula to come to him and intercede for the prolongation of his life. He is said to be at least partly the author of the *Cent nouvelles nouvelles*, a collection of novels mostly borrowed from Boccaccio, and of the *Roi des guerres*. The *Mémoires* of Comines give the full history of this extraordinary prince,

who has attracted the particular attention of Sismondi, Michelet, and Henri Martin. He has also been well described in Barante's *Histoire des ducs de Bourgogne*; while Sir Walter Scott in his "Quentin Durward," and Victor Hugo in his *Notre Dame de Paris*, have portrayed him at two different periods of his life.

LOUIS XII., king of France, the 8th of the house of Valois, born in Blois in 1462, died in 1515. The son of Duke Charles of Orleans, and great-grandson of Charles V., he was left an orphan when scarcely 2 years old, and was educated under the supervision of Louis XI., whose 2d daughter Jeanne he was constrained to marry in 1476. He at first led a dissipated life, but on the accession of Charles VIII. in 1483, the young king's eldest sister, Anne of Beaujeu, having seized upon the reins of power, Louis, who was the nearest heir to the throne, attempted to snatch them from her hands; he at first succeeded in having himself appointed lieutenant-general of the kingdom by the states-general held in 1484; but the crafty daughter of Louis XI. succeeded in defeating all his plans. He then resorted to arms, forming a powerful league among the nobles, and even securing an alliance with Richard III. of England; but Anne's decision and energy again proved her safeguard, and while helping Richmond in his expedition against the English monarch, she sent an army to Brittany, the stronghold of the confederates, who were defeated at St. Aubin-du-Cormier in 1487. Louis of Orleans, being captured, was imprisoned in the castle of Bourges, where it is said he was confined at night in an iron cage. At the end of 8 years he was released by Charles VIII., and proved a faithful servant to his liberator. In 1495 he accompanied Charles in his expedition to Italy, and was put in command at Asti. He rashly took advantage of this circumstance to enforce his claims to the duchy of Milan, in right of his grandmother, Valentina Visconti; but Ludovico Sforza defeated his plans and besieged him in Novara. The return of Charles VIII. from Naples and the victory of Fornovo (1495) extricated him from his difficult position, and he returned to France with the king. The latter dying without issue in 1498, the crown devolved by right upon Louis, now 36 years of age. On his accession, he generously declared that "the king of France would not avenge the wrongs done to the duke of Orleans," and welcomed even those who had previously opposed him. He gave his confidence to George of Amboise, a well meaning but short-sighted minister; and while their common efforts tended to promote the internal welfare of France, their foreign policy was injurious to it. Louis, having in 1499 obtained a divorce from his first wife, married Anne of Brittany, the widow of Charles VIII., thus securing the reunion of that duchy to France. He was now in close alliance with Pope Alexander VI., who had granted the divorce, and he undertook to make good his claims upon Milan. At the head of his army, he

achieved the conquest of the duchy within a few months, took Ludovico Sforza and sent him a prisoner to France, and assisted the pope and his son Cesare Borgia in their territorial aggressions. He concluded in 1500 a secret treaty at Granada with Ferdinand of Aragon, and, sending his army to Naples, shared that kingdom with his ally. Quarrels, however, soon arose between the conquerors, and Gonsalvo de Cordova defeated the French at Seminaria, Cerignola, and on the Garigliano, finally expelling them (1503) from southern Italy. In 1505, Anne of Brittany, availing herself of Louis's illness, concluded with Maximilian a treaty at Blois, by which she engaged to give her daughter Claude to the emperor's grandson (afterward the emperor Charles V.), with a dowry consisting of not only the claims of the French king to Milan and Naples, but the two rich provinces of Brittany and Burgundy. Louis on his recovery broke off this treaty, and, yielding to the wishes of the states-general at Tours, betrothed Claude in 1506 to her cousin Francis of Angoulême, heir apparent to the crown. In 1508 he severely chastised the city of Genoa, which had asserted its freedom, and in 1509 formed an alliance with Maximilian, Ferdinand of Aragon, and Julius II., known as the "league of Cambrai," to crush the republic of Venice. The Venetians, conquered by him at Agnadello, were on the verge of ruin, when the pope (Julius II.) suddenly went over to their side, and brought about the "holy league," to which Maximilian, Henry VIII. of England, and Ferdinand adhered, in order to expel the French from Italy. The latter, under the command of Gaston de Foix, were at first successful, Gaston gaining 3 victories in 8 months; but his death at Ravenna in 1512 arrested their success, and being finally defeated at Novara in 1513, they lost all they still held in Italy. Louis had seduced the Venetians from their allies; but the other confederates made a league at Mechlin, and invaded France; the English routed the French *gendarmes* at Guinegate (1518); and Louis, being moreover threatened by the Swiss and the Spaniards, offered terms to his enemies, and the pacification was settled at Orleans (1514). The king, to secure his arrangements with England, consented to pay a pension of 100,000 crowns to Henry VIII., and to marry that king's sister Mary. A few months later he breathed his last, amid the universal sorrow of his nation, by whom he was styled the "father of the people." He had done much to improve their condition by promoting agriculture and commerce, reforming the administration of justice, and trying to lessen the taxes.

LOUIS XIII., king of France, the 2d of the house of Bourbon, born in Fontainebleau, Sept. 27, 1601, died in St. Germain-en-Laye, May 14, 1643. He was the eldest son of Henry IV. by Maria de' Medici, and succeeded his father in 1610 when only 9 years old, his mother exercising the regency during his minority. A weak woman and a tool in the hands of her Italian fa-

vorites, she was unable to preside over the education of the young king, whose time was spent in useless occupations. In 1615 he married Anne of Austria, daughter of Philip III. of Spain. Notwithstanding his submissive disposition, he got tired of his mother's favorite Concini, and resolved upon shaking off his yoke (1617); he gave orders for his arrest alive or dead, and when Concini was in consequence murdered on the bridge of the Louvre, the king showed himself at a window and exclaimed: "Thanks to you, my friends; now I am a king." He intrusted the affairs of state to his own favorite Albert de Luynes, whom he promoted to the rank of great constable. Although incapable of governing, Louis XIII. possessed great personal bravery, which he evinced in 1619 at the battle of the Pont-de-Cé, where he routed his mother's troops, and in 1621 at the siege of Montauban, which he endeavored to take from the Protestants. He concluded peace with the latter on the death of De Luynes, but found himself unable to check the disorder which prevailed all over the kingdom. He was therefore in 1624 reconciled to his mother, and admitted to his cabinet her chief adviser, Cardinal Richelieu. Thenceforth the king nearly disappeared behind his prime minister, who for 18 years controlled the destinies not only of France but of Europe. Louis' comparative insignificance has two redeeming points: his personal courage in war, and his high appreciation of Richelieu. In spite of all intrigues, and notwithstanding his own dislike of the man, he retained him in power until his death. He more than once placed himself at the head of his armies to support the policy of his minister, and on such occasions deserved general admiration by his valor and sometimes by his military talents; he distinguished himself during the siege of La Rochelle, 1627-'8; in the following year he devised and conducted a most brilliant attack at the Pas de Suze, against the duke of Savoy; and finally, in 1636, his self-possession and firmness saved France from invasion; he advanced toward the allied army, which had already taken Corbie in Picardy, retook that town, and obliged the enemy to retreat. He liked seclusion, and contented himself with the society of a few friends. Some ladies attracted his attention, Mlle. de Lafayette and Mme. de Hautefort among the number; but so great was his reputation for chastity that their virtue was never questioned. Music, drawing, and mechanical arts filled such of his hours as were not devoted to hunting and pious reading. It was not until he had been married 22 years that he became a father.

LOUIS XIV., called the Great, king of France, born at St. Germain-en-Laye, Sept. 16, 1638, died at Versailles, Sept. 1, 1715. He was the eldest son of Louis XIII. and of Anne of Austria. His mother had been married and childless for 22 years, and was an object of aversion to her husband. A temporary reconciliation took place toward the end of 1637, and

the birth of Louis XIV. in the succeeding year occasioned the greatest demonstrations of joy among the people, who gave to him the appellation of *Dieu-donné* or God-given. He was 5 years old when his father died, and his mother became regent with Cardinal Mazarin for prime minister. At the time of his accession France was in a very distracted condition. Laws and jurisdictions were unsettled and undefined; many cities and fortresses were held by individuals possessing in certain districts a greater power than the crown itself; detached portions of other countries interrupted the natural limits of France and broke its geographical unity; war existed with Spain and Germany, and every part of the frontier was menaced by powerful armies; the finances were scanty and ill regulated, and a general grossness of manners and depravity of morals pervaded all classes of society. The infant king's amusements were all of a military kind. He delighted in handling arms and in beating drums. His intellectual education was neglected, but much attention was paid to his physical development, and his natural vanity, egotism, and haughtiness were encouraged rather than checked by his mother and his tutors. The avarice of Cardinal Mazarin induced him to stint the allowance and equipage of the young monarch, who slept upon worn and ragged sheets, and had a most unbecoming and insufficient wardrobe. The personal neglect with which he was treated, and the general contempt for the royal authority during the troubles of the Fronde, made a strong impression on his mind at this period, when for several years he was a passive instrument in the hands of an intriguing minister and a factious nobility, often forced to fly before triumphant rebels, and to wander a fugitive over his kingdom. It was not until 1652 that he was able to reside undisturbed in Paris, and the recollection of these scenes of anarchy gave him a love of order and of strong government which he carried subsequently to despotism, and an aversion to the turbulent metropolis which finally led him to transfer the seat of government to Versailles. In 1651, at the age of 14, Louis declared himself of age, and took full possession of the royal authority. He manifested at even this early period much discernment and soundness of judgment; but, with the exception of his devotional exercises, sufficient military skill to review his troops, and a perfect familiarity with court etiquette, he was extremely ignorant of affairs of state, which had been purposely kept from his inspection. In 1653 the young king, under the orders of Turenne, accompanied the army in a campaign against the rebellious prince of Condé, who was besieging Arras; and the raising of the siege of that city put an end to the contests of the Fronde. In 1659 peace was concluded with Spain by the treaty of the Pyrénées; and in fulfilment of an article of the treaty Louis in 1660 married Maria Theresa, daughter of Philip IV. She was handsome and good-natured, but weak in intellect, and the king had little affection

for her, though he treated her with invariable respect and consideration. Mazarin died in 1661, after having ruled France for 18 years. Louis decided henceforth to be his own prime minister; and when he was waited upon after the death of the cardinal by the functionaries of state, and asked to whom they must in future address themselves on questions of public business, the king replied, much to their astonishment: "To myself." Not one seems to have suspected that Louis, who had been remarkable hitherto for his love of gayety and pleasure, and for his supine obedience to the guidance of Mazarin, would suddenly rouse from his lethargy and assume the burden of government. His first business was to institute, with the assistance of Colbert, a rigid scrutiny into the condition of the finances. Fouquet, a man of brilliant ability, who had long been minister of finance, had accumulated an enormous fortune by peculation. By order of the king he was arrested, Sept. 5, 1661, brought to trial, convicted, and condemned to perpetual imprisonment. He was succeeded by Colbert, under whose administration order was restored in the finances, the revenue greatly increased, manufactures established, and every species of internal improvement promoted. In foreign affairs, the first act of Louis announced to the world that the government of France had passed into very different hands from those of Mazarin, whose domestic difficulties had compelled him to conciliate as much as possible the surrounding powers, and that henceforth the king of France was determined to make himself respected by his neighbors. In 1661 a quarrel broke out at London between D'Estrades, the French ambassador at the English court, and Vatteville, the Spanish ambassador. The latter claimed precedence of the former on the ground that Spain stood higher than France in the scale of nations. An encounter took place between their respective retinues during a public procession, which resulted in the discomfiture of the French ambassador, whose carriage was broken to pieces, his horses killed, and his son and several of his attendants wounded, while the Spanish ambassador forcibly took precedence in the procession. The indignation of Louis when he received the news of this insult was extreme. He immediately ordered the Spanish ambassador at his own court to quit France, recalled the French ambassador from Madrid, and sent a message to the king of Spain declaring that if he did not at once admit the right of France to precedence and make a formal apology for the outrage at London, he might prepare for immediate war. The Spanish monarch yielded to this threat, and sent a special ambassador, who on March 24, 1662, waited upon Louis at Fontainebleau, and, in the presence of all the foreign ministers then resident at the court, declared, in the name of his royal master, that henceforward the Spanish ambassadors should never compete with those of France. This triumph over the Spanish monarch was followed by a still greater

one over the pope, Alexander VII. The duke de Créquy, French ambassador at Rome, got into a quarrel with the pope's brother and with the papal guards, in which some of the ambassador's servants were wounded and one killed. The pope made such reparation as would have satisfied any of the French king's predecessors; some of the guards were hanged, and the governor of Rome dismissed from office for not having prevented the riot. Louis, however, demanded ampler atonement, and began to march troops toward the Italian frontier. The pope became frightened, and at length consented to disband his guard, to exile his brother, to send a cardinal to Paris to make a formal apology, and to build a monument in Rome recording the offence and its reparation. The energy and determination displayed by Louis in these affairs made a deep impression on the whole of Europe, and, with the increasing order and prosperity of France, made him greatly admired and beloved at home. His power in his own kingdom was now entirely absolute; his famous saying: *L'état c'est moi*, "I am the state," was literally true. His administration was efficiently supported by accomplished statesmen and great generals. The internal affairs, directed by Colbert, and the department of war by Louvois, were both in the highest state of order and efficiency; and a powerful navy commanded by the gallant duke of Beaufort, the grandson of Henry IV., maintained the power of France upon the ocean. The other nations of Europe were at the time distracted and enfeebled by internal evils or foreign dangers. The careless and profligate Charles II. of England was privately a pensioner of the French king, and the ancient rival of France was demoralized and betrayed by its own rulers; Spain, though her prodigious empire was yet unbroken in extent, was harassed and weakened by dissensions among her ill-compacted constituent kingdoms; Germany was divided by religious animosities; and Holland was torn by internal factions, and was wasting her energies in attempts at conquest in Brazil. In France, on the other hand, the policy of Richelieu and Mazarin, notwithstanding the civil commotions stirred up against the latter by the turbulent leaders of the Fronde, had at length completely triumphed, and there was no longer among either the people or the aristocracy any serious opposition to the royal authority. The ability unexpectedly displayed by the king, the grace and dignity of his person, the weariness which the nation felt of civil contentions, the change from poverty and distress to prosperity and abundance produced by the reforms in the finances, and the humiliation of Spain and the pope, all tended to increase the power of the crown and to render the people submissive and contented. The nobles, whose turbulence and feudal independence had been hitherto the chief check upon the royal power, now turned courtiers and vied with each other in flattery and subservieney, and devotion to the king became as much a fashion as opposition to the court had been in

the times of the Fronde. The king himself labored zealously to promote not only the external dignity but the internal welfare of France. With the aid of Colbert and other able ministers, he made great and successful efforts to advance the agriculture, commerce, and manufactures of his kingdom, to improve the roads and means of travelling, and to foster literature, science, and the arts. A large proportion of the great monuments of France had their origin in his reign; among others, the stupendous harbors, ship yards, and fortifications of Brest, Rochefort, Lorient, Havre, Dunkirk, Oette, and Toulon; the canal of Languedoc, which unites the Atlantic with the Mediterranean, was constructed by his orders. In 1663 the academy of inscriptions and belles-lettres was founded, and in 1666 the academy of sciences, and eminent foreign men of science were invited to take up their abode in France. Cassini was called from Italy, Huyghens from Holland, and Römer from Denmark. An observatory was erected at Paris, and apartments assigned to the academy of sciences in the palace of the Louvre. An academy of painting and sculpture was also founded at Paris, and in 1667 the French academy of art was established at Rome for the benefit of young French artists. Beside the foundation of these permanent institutions to carry on the progress of the arts and sciences through a long series of future years, a vast number of detached acts of Louis all tended to the same general object. Every man distinguished in letters or in art was rewarded with substantial benefits; large sums were set apart for increasing the royal library; men of learning and discrimination were sent to every part of the world to collect books, manuscripts, and antiques; and 19 professorships were founded in the royal college. Many of the narrow and dark streets which deformed Paris were cleared away, and splendid buildings erected in their stead, while almost the whole of the city was repaved and relighted, and regulations made for its cleanliness, and the police so reorganized and strengthened that it soon became the most orderly and secure capital in Europe. Reforms of still greater importance were made by the promulgation, Feb. 10, 1667, of the famous *ordonnance civile*, which created a great and beneficial change in the whole body of French law, and swept away a mass of abuses and absurdities which had been accumulating for ages. This was followed by an improved criminal code in 1670, and subsequently by the regulation of commercial law and by the abolition of local jurisdictions belonging to the great nobles. In his foreign policy, Louis purchased Dunkirk from Charles II. of England for 5,000,000 livres in 1662, covertly aided Portugal against Spain in 1665, notwithstanding his treaty obligations to the latter power, concluded a commercial alliance with Holland in 1666, and aided that republic against England during the war of 1665-'7. At the same time his fleet in the Mediterranean swept that sea of

the Barbary pirates, and humbled the Algerines, who were compelled to set free their Christian slaves. After long negotiations with the duke of Lorraine, Louis himself in 1667 marched into the territories of that prince and forced him to cede the town of Marsal to France. In 1665 Philip IV. of Spain died, and Louis raised a claim to the Spanish possessions in the Netherlands on behalf of his wife, the daughter of Philip. In support of this claim he suddenly invaded Flanders at the head of an army of 85,000 men, and in 8 weeks had taken a dozen important towns, including the strongly fortified city of Lille, which after a siege of 9 days had surrendered to Louis in person. These rapid conquests alarmed the whole of Europe, and created an impression never effaced that Louis was aiming at universal dominion. A triple alliance was formed, Jan. 28, 1668, between Holland, England, and Sweden, for the purpose of obliging France and Spain to make peace. Louis, however, continued his career of conquest, and in Feb. 1668, Franche Comté was invaded by an army led by the great Condé assisted by the king, and in 14 days the whole of that province had submitted. The commissioners of Sweden, Holland, and England now met at Aix la Chapelle with those of France and Spain, and a treaty was signed, May 2, 1668, by which the important and strongly fortified territory known afterward as French Flanders was retained by Louis, and Franche Comté, which was entirely surrounded by his own dominions and was at his mercy whenever he chose to take it, was restored to Spain. Louis now turned his attention to breaking up by diplomacy the coalition against him, which had extended to the German states, and his success in this field was not less signal than his recent success in war. The electors of Cologne and Hanover, the bishops of Münster, Osnabrück, and Strasbourg, and the king of Sweden were gained over, and Spain itself was partially conciliated. The great object of his policy at this time, however, was to detach England from her alliance with Holland, in order that his growing navy might not be crushed by the power of the two chief maritime states of Europe. This was skilfully effected by bribing the English cabinet, and by playing off upon Charles II. not only the seductions of French gold, but the influence of his sister Henrietta, the duchess of Orleans, and the charms of Mlle. de Querouailles, who afterward became the notorious duchess of Portsmouth. On May 22, 1670, a treaty was signed at Dover, by which the king of England became a pensioner of France, and promised to make war upon his ally the Dutch republic. In the same year Louis resumed military operations by taking possession of Lorraine. In 1672 Charles began his promised war on the Dutch by an attack upon their Smyrna fleet as it was passing through the English channel. Louis in person invaded Holland at the head of 100,000 men, accompanied by Turenne, Condé, Vauban, and Louvois,

and speedily made himself master of 8 provinces and 40 fortresses. He behaved throughout the campaign with marked clemency to his prisoners and to the peaceful population. No plunder was permitted, and whatever was taken for the use of the army was amply paid for. His activity and courage were also conspicuous. He frequently exposed himself to the fire of the enemy, went to bed late, rose at 8 A. M., and gave almost every moment to the performance of his duties as king and general. The Dutch, alarmed at the rapid progress of the French, sent deputies to sue for peace. Louis demanded an indemnity of 20,000,000 livres, the cession of extensive territories, the public exercise of the Catholic religion throughout the United Provinces, and other severe and humiliating conditions. The ancient spirit of the Dutch rose at these demands, and they resolved to perish rather than submit. The grand pensionary De Witt, who counselled submission, was torn to pieces by the people. William of Orange was elected stadtholder and commander-in-chief, and the dikes which shut out the ocean were cut in several places, and the country covered with water, which, though it ruined the land, effectually impeded the progress of the invaders. Preparations were also made to transport in the last emergency the whole nation to the East Indies. Meantime the progress of Louis had again roused the jealousy of other nations, and formidable alliances were rapidly forming against France. The emperor of Germany sent 20,000 men under the famous Montecuculi to join the great elector of Brandenburg, the founder of the military power of Prussia, who had already taken the field with 30,000 troops for the relief of Holland; Spain herself was making exertions for the same purpose, and had raised 15,000 men to reinforce the prince of Orange; and even the debased English court, pressed by the murmurs of the people, who could not see with indifference a Protestant country conquered by a Catholic monarch, began to waver in its subservieney. Louis, leaving Vauban to fortify the places he had taken, hastened to Paris to devise measures to counteract the combinations against him. He provided with prompt vigor for the preservation of his conquests and for the defence of his eastern frontier against the Germans. A war of several years followed, in which the French armies, led by Turenne, Condé, Luxembourg, and other great generals, combated more or less successfully against the forces of half of Europe. Louis himself, in June, 1673, commanded at the siege and capture of Maestricht; and in 1674 he led an army to the conquest of Franche Comté, which was now permanently annexed to France. In this year the devastation of the Palatinate by the army of Turenne, under orders from Louvois, brought upon Louis general execration. In 1676-'7-'8 the king made brilliant campaigns in Flanders, and took in person the towns of Condé, Bouchain, Valenciennes, Cambray, Ghent, and Ypres. The war was at length concluded by the peace of Nime-

guen, Aug. 10, 1678, by which Louis retained Franche Comté, French Flanders, Alsace, and some of his conquests on the Rhine. The negotiations were in great part carried on directly by himself, and his letters during their progress exhibit his diplomatic abilities in a very favorable light. He did not suffer Europe to remain long at peace. In 1680 he advanced claims to various German territories, and in Sept. 1681, seized by force upon the important city of Strasbourg. This led to war with the German empire and with Spain, which resulted in the acquisition by France of the town and territory of Luxemburg, which were confirmed to Louis by the treaty of Ratisbon, Aug. 1684. The prince of Orange was unwearied in his efforts to array Europe in opposition to the ambitious designs of the French monarch, whose schemes of aggrandizement were now clearly manifested; and in 1686 the league of Augsburg was formed, by which Holland, Austria, Spain, Bavaria, and Savoy formed a coalition against France. Louis prepared with his usual energy for the contest, which he began himself in Sept. 1688, by invading and overrunning the Palatinate, which was again desolated with fire and sword in the most cruel and barbarous manner. These atrocities, however, like those of the former war, were committed by order of Louvois, and were strongly condemned by the king when they came to his knowledge. In the war that ensued, his armies, no longer led by Condé and Turenne, met with severe reverses. Colbert was dead (Sept. 6, 1683), and France was beginning to feel seriously the immense expenses of war, carried on as it was by Louis with standing armies of a magnitude unknown in Europe since the days of the Romans. The treasury was exhausted, and to replenish it the king and the principal nobles sent their plate to the mint, and various other extreme means were resorted to. As the war advanced, the military genius of the duke of Luxembourg redeemed the honor of the French arms at Louza, Steenkirk, Neerwinden, and in other battles. The English revolution of 1688 had raised to the throne of Great Britain the prince of Orange, the ablest and most determined of the enemies of Louis, and had added the forces of that kingdom to the coalition against France. The war continued with mingled success and reverses on the part of Louis till Sept. 1697, when it was terminated by the peace of Ryswick. By the treaties here made, Louis granted to the Dutch extraordinary commercial privileges, and regained from them Pondicherry in India; to Spain he restored his conquests in Catalonia, and a large part of Flanders, with many strong fortresses; to the Germans he restored all that he had taken; he gave up Lorraine to its legitimate sovereign, and lastly recognized William III. as king of England. Charles II. of Spain died Nov. 1, 1700, and, having no heir, left his crown by will to Philip, duke of Anjou, grandson of Louis, a testament accepted by the French king, with the ominous remark that "the Pyrénées no longer

existed." This event set all Europe in commotion, and led in the following year to the war of the Spanish succession, Austria, England, Holland, Prussia, and Hanover having formed an alliance against France. This great struggle was in the end eminently disastrous to Louis, who saw his armies defeated, his fleets destroyed, his kingdom invaded, his resources exhausted, and France distressed by famine, caused by the most rigorous winter ever known in Europe. He therefore sought for peace, and after rejecting with haughty disdain the severe and humiliating conditions at first demanded by the triumphant allies, succeeded by skillful diplomacy in effecting the treaties of Utrecht, April 11, 1713, with Holland and England, and in the following year the treaty of Rastadt with the German empire. These were the last important events in the foreign policy of the reign of Louis. In the internal history of France during the portion of his reign of which we have related the foreign history, the most striking events were the outbreak of poisoning in Paris, for an account of which see *BRISVILLIERS*; the tragical death of Henrietta of England; the revocation of the edict of Nantes, Oct. 22, 1685, and the subsequent persecution of the Protestants; the revolt of the Camisards in 1703; the building of the magnificent palace of Versailles; and the singular and mysterious detention of the Man in the Iron Mask. During the greater part of his reign the mistresses of Louis XIV. played an important and often a conspicuous part in the affairs of his brilliant court. The most noted of these were the duchess de La Vallière and the marchioness de Montespan, by both of whom he had several children, who were acknowledged and legitimized. His queen, Maria Theresa, died July 30, 1683, and in the year 1685 or 1686 Louis was privately married to Mme. de Maintenon, whom he had in vain sought to make his mistress, and who exercised over him a powerful influence which ended only with his life.—The reign of Louis XIV. has been styled the Augustan age of France, and it will certainly ever be illustrious from the splendid array of great men whom the king assembled around his throne. We have already mentioned his great ministers Colbert and Louvois. Among his generals, beside Turenne, Condé, and Luxembourg, were Catinat, Créquy, Boufflers, Montesquieu, Vendôme, and Villars, all of them eminent soldiers; his distinguished naval commanders were Châteaurenault, Duquesne, Tourville, and Duguay-Trouin; Molé, Lamoignon, Talon, and D'Aguesseau were among the civilians of his reign; Vauban and Riquet were his engineers; Perrault, Mansart, and Blondel his architects; Le Notre his landscape gardener; and Puget, Girardon, Pousin, Claude Lorrain, Le Sueur, Le Brun, and the two Mignards were among his sculptors and painters. In the list of the literary notabilities of his reign are the names of Corneille, Racine, Molière, Quinault, La Fontaine, La Bruyère, Boileau, Bossuet, Bourdaloue, Massillon, Fénelon, Fléchier, Fleury, and

Mme. de Sévigné, most of whom still hold a place in the foremost rank of French authors. At an early period of his reign Louis XIV. established at his court a most rigid system of etiquette, which he regarded as of the greatest importance and always maintained with jealous care. He rose at 8 o'clock, performed his devotions, and was dressed by his valets in presence of a crowd of courtiers, and then read for an hour, at the close of which time he breakfasted. He left his chamber at 10, attended the council and heard mass at 12. From noon until 1 o'clock he appeared in public. At 1 he dined, seated alone at the table, and waited on by the highest officers of the court. After dinner he spent some time with the royal family, and then held conferences with his ministers; afterward he received petitions and gave audiences, during which he exhibited great urbanity and patience. The rest of the afternoon was spent in conversation, in driving, at the theatre, or the card table. At supper, which was his favorite repast, he collected about him all the princesses and their ladies of honor, and passed the evening in conversation and amusements. In person the king was about 5 feet 8 inches in height, but had the art by his dress and carriage to appear much taller, and was universally admired by his contemporaries for his majestic air. His features were large and handsome, and his manner singularly grave and commanding. In the latter part of his life he became pious, and devoted much time to his religious duties. His old age was embittered by the reverses of his armies, by the deaths of his children and grandchildren, and by remorse for the vices of his early life. His last words to his great-grandson who succeeded him were: "My child, you are about to become a great king; do not imitate me either in my taste for building or in my love of war. Endeavor, on the contrary, to live in peace with the neighboring nations; render to God all that you owe him, and cause his name to be honored by your subjects. Strive also to relieve the burdens of your people, which I myself have been unable to do." G. P. R. James, in his "Life and Times of Louis XIV.," says: "The character of Louis XIV. has been a subject of dispute ever since his eyes were closed. . . . That he committed many errors there can be no doubt; but he had many high qualities both of the mind and of the heart; and it is not a little to say of him that, though he had struggled with faction in his youth, rendered himself despotic in his prime, and met with bitter griefs, disappointments, and anxieties in his decline, he never showed the slightest trait of a sanguinary disposition in youth, in manhood, or in old age. That he was ambitious to excess, no one who reads his history can hesitate to admit; but that he ever dreamed of universal dominion few will now believe; and though his object was certainly his own aggrandizement, rather than the aggrandizement of his country, yet he undoubtedly saw and sought the means of raising his own glory

in conjunction with the glory of the state. A hundred years are not near sufficient to clear the mind of party prejudices, and Louis XIV., over-estimated in his own day, is certainly rated too low at present. . . . That he had active and that he had passive courage is clear; in youth he exposed himself on all occasions to the fire of the enemy; in age he never shunned any of those contagious sicknesses which desolated his family and swept off the young around him. In prosperity he more than once forgot himself, and the despot spoke out when he had conquered; but in adversity there was not the corresponding depression which is the sign of a weak mind; and he bore reverse more nobly than success. He was firm and steady in his attachments, guarding himself carefully against his own prejudices and against the prejudices of others. Though he often rewarded success as a merit, he never punished misfortune as a fault; he was ever mild toward error, when it was not viewed through the medium of bigotry, and in his own nature was forgiving and of long endurance. He bore contradiction with calmness, and endured even insolence with extraordinary moderation. In his nature he was mild and not sanguinary, and during a reign of 70 years with despotic power, there are fewer occasions mentioned on which the crime of high treason was punished with death than in any equal period in the history of France." On the other hand, a recent English writer, Henry Thomas Buckle, in his "History of Civilization in England," says: "The reign of Louis XIV. must be utterly condemned if it is tried even by the lowest standard, of morals, of honor, or of interest. A coarse and unbridled profligacy, followed by the meanest and most grovelling superstition, characterized his private life; while in his public career he displayed an arrogance and a systematic perfidy which eventually roused the anger of all Europe, and brought upon France sharp and signal retribution. As to his domestic policy, he formed a strict alliance with the church; and although he resisted the authority of the pope, he willingly left his subjects to be oppressed by the tyranny of the clergy. To them he abandoned every thing except the exercise of his own prerogative. Led on by them, he, from the moment he assumed the government, began to encroach upon those religious liberties, of which Henry IV. had laid the foundation, and which down to this period had been preserved intact. It was at the instigation of the clergy that he revoked the edict of Nantes, by which the principle of toleration had for nearly a century been incorporated with the law of the land. It was at their instigation that, just before this outrage upon the most sacred rights of his subjects, he, in order to terrify the Protestants into conversion, suddenly let loose upon them whole troops of dissolute soldiers, who were allowed to practise the most revolting cruelties. The frightful barbarities which followed are related by authentic writers; and of the effect produced on the material in-

terests of the nation, some idea may be formed from the fact that these religious persecutions cost France half a million of her most industrious inhabitants, who fled to different parts, taking with them those habits of labor and that knowledge and experience in their respective trades, which had hitherto been employed in enriching their own country. These things are notorious, they are incontestable, and they lie on the surface of history. Yet in the face of them there are still found men who hold up for admiration the age of Louis XIV. Although it is well known that in his reign every vestige of liberty was destroyed; that the people were weighed down by an insufferable taxation; that their children were torn from them by tens of thousands to swell the royal armies; that the resources of the country were squandered to an unprecedented extent; that a despotism of the worst kind was firmly established; although all this is universally admitted, yet there are writers, even in our own day, who are so infatuated with the glories of literature as to balance them against the most enormous crimes, and who will forgive every injury inflicted by a prince during whose life there were produced the letters of Pascal, the orations of Bossuet, the comedies of Molière, and the tragedies of Racine."—The most noted French works upon this reign are Voltaire's *Siècle de Louis XIV.*, St. Simon's *Mémoires*, and *Louis XIV. et son siècle*, by Alexandre Dumas. Beside the work by James already mentioned, there is in English "Louis XIV. and the Court of France in the 17th Century," by Miss Pardoe (London and New York, 1855).

LOUIS XV., king of France, great-grandson and successor of the preceding, born at Versailles, Feb. 15, 1710, died there, May 10, 1774. He was the third son of Louis, duke of Burgundy, and of Maria Adelaide of Savoy. He bore at first the title of duke of Anjou, and afterward of dauphin. The will of Louis XIV. had provided that during the minority of his successor the kingdom should be governed by a regency, with the duke of Orleans, cousin of the young king, at its head. Orleans, however, induced the parliament of Paris to set aside the will and declare him sole regent as first prince of the blood. The beginning of the regent's administration was judicious and popular. He restored to the parliament some of the rights which it had lost in the preceding reigns, and took measures to promote agriculture, commerce, and the other material interests of the country. Though the intrigues of Cardinal Alberoni, the ambitious and able Spanish minister, drove France into war with Spain (1719-'21), the policy of the regent was on the whole pacific. He engaged with eagerness in the financial and commercial schemes of Law, which finally threw the country into confusion and produced almost universal bankruptcy. (See LAW, JOHN.) In 1723 Louis was declared to be of age, and the regent became prime minister; but his excessive debauchery had ruined his

constitution, and he died the same year. The duke of Bourbon succeeded him as minister. He was in turn succeeded by Cardinal Fleury, who had been tutor to the king in childhood, and had won the love and confidence of his pupil. In Sept. 1725, the king was married to Maria Leszczyński, daughter of Stanislas, ex-king of Poland, a princess of little personal beauty, but of amiable disposition and most exemplary and pious life. The policy of Fleury was even more pacific than that of Orleans. He was so averse to war, that even when compelled to undertake it he carried it on without vigor and with most reluctant acquiescence in the necessary expenditures. He labored incessantly to preserve peace among his neighbors, and hostilities in Europe were repeatedly averted by his mediation. In 1738 Augustus II. of Poland died, and Stanislas, the father-in-law of Louis, claimed the vacant throne. His pretensions were supported by France, and those of Frederick Augustus of Saxony by Austria and Russia. This led to war (1733-'35), in which the French armies won several victories; and though Stanislas failed to recover the kingdom of Poland, he acquired the duchy of Lorraine, which he ruled in an enlightened and beneficent manner till his death in 1766. The disputes relating to the Austrian succession, which followed the death of the emperor Charles VI. in 1740, involved France again in war, as Louis, who had some claims himself to the succession, maintained the claims of Charles Albert, elector of Bavaria, against those of Maria Theresa, who was supported by England. During the first year of this war the French armies were beaten and driven out of Bohemia and Bavaria, and the navy, which had been neglected by the parsimonious Fleury, suffered greatly from the English fleets. But the genius of Marshal Saxe restored the honor of the French arms in the victories of Fontenoy, Raucoux, and Laffeld, by which the Austrian Netherlands were almost entirely conquered (1745-'47). The war ended by the peace of Aix la Chapelle, Oct. 18, 1748, and resulted in no gain to France but military fame, though the treaty gave her back Louisburg in America, which had been taken by the New Englanders in 1745. The aged Fleury died in 1743, and Louis, declaring that he meant henceforth to govern without a prime minister, and to command his troops in person, joined his army and shared in the dangers of Fontenoy. But this ebullition of energy soon passed away. For several years after his marriage he had shown a regard for chastity and decency unusual among the monarchs of Europe at that period; but about 1737 his profligate courtiers had systematically exerted themselves to corrupt his principles and his life. They ultimately succeeded, and Louis plunged into the grossest debauchery. Multitudes of ladies became suitors for the royal favor, and the highest nobles of France emulated each other in their endeavors to have the honor of pandering to the appetites of the mon-

arch. The queen was wholly neglected, and the history of the government soon became intimately connected with the changes of the king's mistresses. The most noted of these were Châteauroux, Pompadour, and Du Barry. The debaucheries of the king culminated at length in the establishment at Versailles of the *parc aux cerfs*, or deer park, as it was facetiously called, a harem in which were kept for the pleasures of the king a number of young girls enticed or torn from their homes by the royal agents. They were changed in rapid succession, and Louis spent much of his time in teaching them to read and write, and in instructing them in religious matters. He was in the habit of praying with them, and after he became tired of their charms took pains to have them married, and gave them each a considerable dower. In 1756 disputes with England about the boundaries of the French and English territories in America resulted in the 7 years' war (1756-'63), in which France lost Quebec and Canada by the victory of Wolfe over Montcalm, Sept. 13-18, 1759, lost India by the victories of Clive, and lost her navy by the victories of Hawke and other English admirals. The French armies were beaten at Rossbach and at Minden; and at last, by the peace of Paris, Feb. 1763, France ceded to England Canada, Nova Scotia, all the rest of her possessions in North America east of the Mississippi, and the islands of Grenada, Dominica, and Tobago in the West Indies. She came out of the contest humiliated and disgraced, with her finances exhausted and her foreign commerce nearly destroyed. During the war an attempt by a fanatic named Damiens to assassinate the king revived for a time the popularity which Louis had lost by his misconduct; but the unfortunate issue of the contest and the ensuing distress tended much to alienate the people from the crown. Internally the kingdom was greatly disturbed by contests between the ecclesiastical and civil authorities, growing out of attempts on the part of the clergy to enforce the papal bull *Unigenitus*, which were resisted by the parliaments. The king was at length induced to banish the Jesuits, whose quarrel with the Jansenists had fomented these dissensions. The parliament of Provence having issued a decree depriving the pope of Avignon and the county of Venaissin, which had long belonged to the holy see, Louis seized those territories in 1768; in the same year Genoa ceded Corsica to France, though the French troops did not succeed in subduing the island till the following year. The rest of this reign was occupied by struggles between the king and the parliaments, in which the royal authority finally triumphed. Louis, however, did not long enjoy his triumph. A young girl with whom he had a transient amour communicated to him the small pox, which, together with a shameful malady from which he was already suffering, caused his death in a few days. His personal vices and his misgovernment had pre-

pared the way for the overthrow of the monarchy, which carried with it to destruction his innocent successor. Louis XV. was himself fully aware of the perilous state of the kingdom, and his only anxiety in his latter years was that the tottering fabric should last as long as he did. His lusts and extravagances and his needless and costly wars had exhausted the treasury and increased the burden of debt and taxation; and as all the taxes and imposts pressed entirely upon the citizens and peasants, while the wealthy nobles and the clergy were exempt, the middle classes were heavily burdened, especially as the government did not collect the revenues itself, but sold them to the extortionate and unscrupulous farmers-general. In spite, however, of the national distress and the general confusion of affairs, a great intellectual movement was apparent in France during this reign, and the third estate, as the middle classes were called, gradually acquired by its wealth and intelligence a considerable degree of social and political influence. A spirit of boldness, mingled with levity in thought and intellectual speculation, was strikingly manifested in conversation and literature. Every thing was doubted, every thing attacked, and the shameless corruption which pervaded both church and state provoked a criticism whose searching inquiry spared neither religion nor social order nor the political organization of the country. The sceptical tendency of the times manifested itself in great writers like Voltaire, Rousseau, Diderot, D'Alembert, Condillac, and Helvetius, and in works like the great *Dictionnaire encyclopédique*, which produced an immense agitation in the public mind. The excesses of the court and of the clergy, exposed and satirized by the wits and authors, debased the monarchy and the church in the eyes of the people, and brought about an intellectual revolution which was the precursor and the cause of the political revolution which took place in the succeeding reign.

LOUIS XVI., grandson and successor of the preceding, born at Versailles, Aug. 23, 1754, guillotined at Paris, Jan. 21, 1793. He was the third son of the dauphin Louis and of Maria Josepha, daughter of Frederic Augustus, king of Poland and elector of Saxony. Before his accession he bore the title of duke of Berry. He had a vigorous physical constitution, and his features were not without dignity; but he had none of the grace of manner which had marked his immediate predecessors on the throne. He was awkward, reserved, taciturn, and without decision of character. In confidential intercourse alone he spoke with sense and intelligence, but in public his diffidence prevented him from doing justice to himself. He was industrious, quick of comprehension, and had an extraordinary memory, which unhappily had been stored by his instructors with little else than useless knowledge. He was intentionally kept from acquaintance with affairs of state, though while dauphin he read much and wrote somewhat on historical matters, and was familiar

with geographical and chronological details. He had a fondness for mechanical pursuits, learned the trade of a locksmith, and took much interest in the mechanical part of printing. He printed himself, in 1766, 35 copies of *Maximes morales et politiques tirées de Télémaque*, which he had collected from Fénelon's romance; and he made also a translation of some portions of Gibbon's "Decline and Fall," which was published under the name of Le Clerc de Sept Chênes, who was his reader. On May 16, 1770, he was married to Marie Antoinette, archduchess of Austria; and on May 10, 1774, he became king by the death of his grandfather Louis XV. He appointed the aged count of Maurepas his minister of state, and Turgot minister of finance. Sartine, Malesherbes, and the counts of Vergennes and of Saint Germain were also made members of the cabinet. Various reforms were introduced, chiefly through the exertions of Turgot, and the most offensive feudal services and imposts were abolished in spite of a strong opposition on the part of the courtiers, the nobility, and the higher orders of the clergy. The people were conciliated by the recall of the parliaments, Nov. 12, 1774. The king set the example of economy and retrenchment by reducing his household expenses and the number of his guards. An edict declaring the internal trade in grain free, and the occurrence of a partial famine at the same time, produced serious riots, in the suppression of which several hundreds were killed by the military. The king on this occasion, though at first irresolute, showed at length both vigor and prudence, and the disturbances were quieted by the amnesty of May 17, 1775. In the following year the opposition to reform, supported by the queen, succeeded in effecting the withdrawal of Turgot from the cabinet; and after various changes, the finances were at length intrusted to the celebrated Necker, from whose skill and talent the highest expectations were entertained. When the war of the American revolution broke out, and the agents of the United States, Franklin and Deane, arrived in Paris to solicit aid for the struggling colonies, Louis, though sympathizing with the Americans, was averse to embarking in war on their account; but his pacific inclinations were at length overcome by the urgency of his ministers and of the queen, and by the enthusiasm of the court and people, and on Feb. 6, 1778, he concluded the treaty of alliance with the United States, which in a few months resulted in the declaration of hostilities between France and Great Britain. The war cost France about 1,400,000,000 livres; and beside the irreparable deficit it produced in the already disordered finances, it tended greatly to weaken the monarchy by diffusing republican and revolutionary ideas. Necker became by his attempts at reform so obnoxious to the court and the aristocracy that he was obliged to resign in 1781. He was succeeded by Calonne, whose extravagance was unbounded. The queen and the court gave themselves up to gayety and profusion,

with the exception of the king, whose tastes were simple and moderate, and who refused himself expensive indulgences which he granted to the queen and the princes of the blood. In 1785 a swindling trick by which, in the name of the queen used without her knowledge, a jeweller of Paris was defrauded of a diamond necklace of immense value, created much excitement, threw great scandal on the queen and court, and disgraced the throne in popular estimation. At length the king was persuaded to convene the assembly of the notables or principal nobility of the kingdom, in order to devise some means for raising money, the deficit in the finances having reached the sum of 140,000,000 livres. The notables met in Feb. 1787, but rejected the proposal of a universal taxation which should embrace both the nobles and the clergy, upon which Calonne resigned. His successor, Loménie de Brienne, was not more successful in grappling with the difficulties which beset the state, and was compelled to resign at a time when the scarcity of money had become so great that all cash payments were suspended and a state bankruptcy appeared inevitable. Necker, who was exceedingly popular, was recalled to the ministry in 1788; and the states-general, which had not met since 1614, were summoned, and assembled at Versailles, May 5, 1789. An order of the king fixed the number of noble and ecclesiastical members at 300 each, and that of the third estate or citizens at 600. A quarrel broke out between the three estates at their first sitting, and after a contest of some weeks the third estate declared itself (June 17) a national assembly, and was joined by portions of the other estates. The assembly began immediately a series of financial reforms which excited the greatest enthusiasm throughout France. Necker prepared a plan of a constitution for a limited monarchy like that of England; but the nobility persuaded the king to consent to violent measures, and on June 20 the hall of the assembly was closed by military force. The members, however, met in an adjoining tennis court and unanimously took an oath never to separate until the constitution of the kingdom and the regeneration of the public order were established on a solid basis. On June 23 a royal sitting was held, and Louis from the throne made a speech to the assembly, and proposed various important reforms and the establishment of constitutional rights, securing the liberties and privileges of the people. His concessions were received with coldness, and after the termination of the sitting he dissolved the assembly. The third estate, however, refused to be dissolved; and one of its most prominent members, Mirabeau, replied to the official who summoned them to obey the king: "Tell your master that we sit here by the power of the people, and that we are only to be driven out by the bayonet." The king yielded to this resolute resistance, the assembly remained in session, and the nobility and clergy, who had yielded to the mandate of dissolution, now returned and took their seats at the request of the

monarch. During these proceedings great excitement prevailed among the people of Paris. A national guard was formed, embracing nearly all the citizens capable of bearing arms, with Lafayette for commander, and the government of the city became a democratic municipality with Bailly for mayor. The irresolute king, whose intentions were good while his weakness led him into fatal vacillations and tergiversations, was now persuaded to dismiss Necker and banish him from the kingdom, and to surround Paris with a powerful army commanded by Marshal Broglie. Paris, exasperated at these reactionary measures, rose in insurrection and stormed the Bastille on July 14. The king was startled and dismayed, and meditated flight beyond the frontier, though he did not yet fully appreciate the dangers of his position. "It is an insurrection," he said to the duke de la Rochefoucauld-Liancourt on the night after the taking of the Bastille. "No, sire, it is a revolution." The next morning Louis, who had a horror of bloodshed, and would not use the force at his command, made his appearance in the national assembly, which he addressed for the first time by this title. He came without his guards, accompanied only by his two brothers. "Gentlemen," he said, "I am come to consult you on the most important affairs; the frightful disorders of the capital call for immediate attention. It is in these moments of alarm that the chief of the nation comes, without guards, to deliberate with his faithful deputies upon the means of restoring tranquillity. I know that the most unjust reports have been for some time in circulation as to my intentions; that even your personal freedom has been represented as being in danger. I should think my character might be a sufficient guaranty against such calumnies. As my only answer, I now come alone into the midst of you; I declare myself for ever united with the nation; and relying on the fidelity of the national assembly, I have given orders to remove the troops from Versailles and Paris; and I invite you to make my dispositions known to the capital." This speech for a while restored popular confidence in the king, though at the time of its utterance he had with his usual infirmity of purpose already signed the order for the army to advance upon Paris. On July 17, accompanied by the national assembly, the king visited Paris, and was conducted through a mob of 100,000 armed men to the Hôtel de Ville, where he showed himself to the people, wearing on his breast the popular badge, the tricolor, which had recently been adopted as the revolutionary emblem. He was then reconducted to Versailles amid the strongest demonstrations of popular attachment. On the day of the king's entry into Paris the princes of the blood, except Monsieur, and the chiefs of the aristocratical faction fled from the kingdom. They were followed by large numbers of the nobles and by the ministry, whom the assembly had impeached. At the same time Necker was recalled, conducted

to Paris in triumph, and reinstated in his office. From this period the revolution went rapidly onward. An imprudent outburst of loyal enthusiasm among the officers of the troops stationed at Versailles produced a sudden commotion in Paris, and a furious mob marched (Oct. 5) from that city to Versailles, where they took possession of the royal palace, and after committing great outrages compelled the king, queen, and royal family, who had narrowly escaped massacre, to return with them to Paris, where they were permitted to occupy the Tuileries, which was strictly guarded to prevent their escape. These events completed the first era of the revolution, in which, during the 5 months that had elapsed since the meeting of the states-general, an absolute monarchy had been converted into a turbulent democracy, the property of the church confiscated, the feudal privileges of the nobles and the immunities of great corporations abolished, the principle of universal equality recognized, all authority admitted to flow from the people, and the right of insurrection recognized as a sacred duty. Louis remained a virtual prisoner in the Tuileries till the following year. On July 14, 1790, he took part in the imposing ceremony of the confederation in the Champ de Mars, where in presence of half a million of spectators he swore to be faithful to the constitution which the national assembly was then preparing. After this, however, his situation grew constantly worse. Necker, unequal to the difficulties of his post, retired to Switzerland. Mirabeau, who had been won over, partly by bribery, to the side of the king, died, and with him fell the last hope of the monarchy. The king, to test the degree of restraint to which he was subject, endeavored in April, 1791, to pay a visit to his palace of St. Cloud, but his departure from the Tuileries was prevented by the mob. He now determined to make his escape from this disgraceful thralldom, and from the violence, insult, and danger to which he was continually exposed in Paris, and, calling around him at some place on the frontiers such subjects as were yet loyal, make a stand against the tyranny of the assembly and the mob. In concert with the marquis de Bouillé, an able and resolute general, who commanded a body of loyal troops in Lorraine, a plan was at length formed for the flight of the whole royal family to Montmédy on the northern frontier, about 200 miles from Paris. It was put in execution June 20, and failed of success chiefly through the obstinacy and want of common sense of the king himself, who could not be persuaded to make use of common carriages, but had a peculiar coach built for his own use, which attracted attention, and who beside did not on his journey take care to keep himself concealed from observation. He was recognized by the assistant postmaster Drouet at St. Menes, stopped by the national guards at Varennes, 150 miles from Paris, and brought back to the capital a prisoner, accompanied by the stern Pétion, and by Barnave, who now be-

came a defender of the throne. On the morning after his return a decree of the national assembly provisionally suspended him from his functions as king, and a strict guard was placed over him and the royal family. In September the new constitution was submitted to him for acceptance, his freedom being previously restored to him. After several days' examination he sent this message to the assembly, Sept. 18: "I accept the constitution; I engage to maintain it alike against civil discord and foreign aggression, and to enforce its execution to the utmost of my power." On the following day he repaired in person to the assembly to declare his acceptance, and on Sept. 29 he attended the closing session of the assembly and delivered a speech in which he said: "Tell your constituents that the king will always be their first and best friend; that he has need of their affection; that he knows no enjoyment but in them and with them; that the hope of contributing to their happiness will sustain his courage, as the satisfaction of having done so will constitute his reward." For a brief period after this Louis had a certain degree of peace and even of popularity; but his vetoes upon the decrees against the emigrant royalists and the priests who would not swear to support the constitution, and his veto of the decree for the defence of Paris against the Austrians and Prussians, caused such irritation that on June 20, 1792, a terrible mob marched from the suburbs to the Tuileries, took possession of the palace, and seizing the king sought by menaces and insults to make him withdraw his vetoes. He refused with great dignity and firmness, and after several hours of stoical endurance he was rescued by the arrival of the mayor with the national guard. The invasion of France by the Prussians and Austrians, and the insolent manifesto of the duke of Brunswick, their commander, again roused the Parisians to fury; and on Aug. 10 they rose in insurrection, stormed the Tuileries, and massacred the Swiss guards, who had made a gallant defence. Louis with his family sought refuge in the hall of the national assembly, where they passed 16 hours in a narrow closet. The assembly, meantime, passed an act to suspend the royal authority, to place the king and his family under control, to give the dauphin a tutor, and to assemble a national convention. The Temple, an ancient fortress in Paris erected by the knights templars, was assigned as the prison for the royal family. The national convention assembled, and on Sept. 20 proclaimed France a republic. In December they brought the king to trial on various charges, the substance of which was that he had conspired with the emigrants and the foreigners to overthrow the constitution and restore the ancient order of things. These charges were supported by documents which had been found in an iron safe concealed in a wall of the Tuileries. Louis, assisted by 3 advocates, Tronchet, Desèze, and Malherbes, was brought before the convention on Dec.

11 and 26, and made a dignified and forcible defence, but was found guilty by a unanimous vote, Jan. 15, 1793. After stormy debates between the Girondists and Jacobins, he was condemned on the 17th by a majority of 5 votes, and guillotined on the 21st.—See De Tocqueville, *Coup d'œil sur le règne de Louis XVI.* (Paris, 1850).

LOUIS XVII., dauphin and titular king of France, son of the preceding, born at Versailles, March 27, 1785, died in the Temple at Paris, June 8, 1795. He was the third child of Louis and of Marie Antoinette. His first title was duke of Normandy, and he became dauphin by the death of his elder brother Louis Joseph, June 4, 1789. He was carefully educated under the supervision of his father, and at the outbreak of the revolution was a beautiful, lively, and intelligent child, but remarkably impatient and unmanageable. He was imprisoned in the Temple with the rest of the royal family, Aug. 18, 1793. After the execution of his father, Jan. 21, 1793, he was proclaimed king by his uncle, the count of Provence, who was then a refugee in Germany, and was recognized as king by most of the courts of Europe, by the Vendean chiefs, and by the insurgents in the south of France. These demonstrations, together with several unsuccessful attempts by the royalists to rescue him from prison, irritated and alarmed the revolutionary government; and on July 8, at 10 o'clock at night, the boy was forcibly torn from his mother's arms, and, frantic with terror, was carried screaming to another part of the prison. Here he was consigned to the care of a shoemaker named Antoine Simon, a violent Jacobin of rough manners and brutal temper, who treated him with systematic cruelty, apparently with the design of getting rid of him without committing palpable murder. The young prince was shut up in a cell and left there alone day and night, without employment or amusement, or any opportunity for exercise or to breathe fresh air. A vessel of water, seldom replenished, was given him for drink, and some coarse food was occasionally thrown in at the half opened door. He was allowed no means of washing himself, his bed was not made for 6 months, and for more than a year his clothes, his shirt, and his shoes were not changed. By prolonged inactivity his limbs became rigid, and his mind, through terror, grief, and monotony, became imbecile, and at length deranged. Something that he had said in reply to questions having been perverted to the injury of his mother, he resolved thenceforth to be silent, and for a long period neither threats nor blows nor coaxings could induce him to speak. When not sleeping he sat quietly in his chair, without uttering a sound or shedding a tear, or shrinking from the rats with which his dungeon swarmed. The reign of terror at last ended, and in July, 1794, the brutal Simon perished by the guillotine, together with Robespierre, Couthon, and Saint Just. Louis was placed under the care of more merciful keepers, but he was still kept in solitary confinement, and not allowed to see

his sister, who was imprisoned in an adjoining apartment. At length, in May, 1795, a physician was allowed to see him, who pronounced him dying of scrofula. He died at 2 P. M. in the arms of Lasne, one of his keepers, and the next day, June 9, his body was identified and certified to by 4 members of the committee of public safety and by more than 20 of the officials of the Temple. A post-mortem examination was made the same day by 4 distinguished physicians. On the following day the remains were buried in the cemetery of Ste. Marguerite, and every trace of the grave carefully obliterated. Several pretenders claiming to be Louis XVII. have appeared; among them, in France, Hervagant, a tailor's son, who died in 1812 in prison, and Bruneau, a shoemaker, who was sent to prison in 1802; and in America, the Rev. Eleazar Williams, a half-breed Indian, who died in 1859.—See Beauchesne, *Louis XVII., sa vie, son agonie, sa mort* (Paris, 1852; English translation by William Hazlitt, London and New York, 1853).

LOUIS XVIII. (LOUIS STANISLAS XAVIER), king of France, born at Versailles, Nov. 17, 1755, died in Paris, Sept. 16, 1824. The 4th son of the dauphin of Louis XV. and of Maria Josepha of Saxony, he received at his birth the title of count of Provence, and on the accession of his brother Louis XVI. to the throne, that of Monsieur. He was superior to his brothers in abilities, but inferior in character, especially to the king, and during the reign of the latter spent a large part of his time in philosophical and literary studies, and in petty, often not harmless intrigues against the king, the queen, and his younger brother the count of Artois. A theoretical conservative, he opposed the liberal measures of Maurepas, the reforms of Turgot, and the financial experiments of Necker, but afterward took an important part in the acts of the assembly of notables, contributed to the fall of Calonne, sided with the parliament, and thus gained much popularity. On the outbreak of the revolution he lived in comparative retirement, and was unobserved during the tumults of Oct. 5 and 6, 1789, but in the following year was accused of complicity in the alleged conspiracy of the marquis of Favras against the revolution. He made a public defence and was acquitted with acclamations, while Favras suffered the punishment of death without naming any of his associates. In June, 1791, Monsieur finally fled from the capital, and succeeded in escaping beyond the frontier. The court being now kept under surveillance by the people, he took up his abode in Coblenz on the Rhine, declared his brother to be a captive, and, gathering around him the so called *France exilée*, formed a kind of camp court, protesting against the revolutionary measures of the French national assembly. The unhappy issue of the first campaign against France, however, soon compelled him to quit the vicinity of that country. Having assumed the title of regent for Louis XVII. after the execution of Louis XVI., he lived successively at various places

in Germany and England, and at Verona, whence he was driven again by the victories of General Bonaparte. An attempt was made upon his life at Dillingen, after which he repaired to Mitau in Courland, which he soon had to leave at the command of the czar Paul. He then lived in Warsaw till the treaty of Tilsit, and finally in England till the fall of Napoleon in 1814. Suffering under a complication of painful diseases, he now returned in triumph to his native country, after an absence of 28 years, to occupy the throne of his ancestors. Infirm and old, and surrounded by an ultraroyalist party desirous of revenge on their popular enemies, it soon became apparent that he possessed neither the sympathy of the people nor the fidelity of the remnants of the Napoleonic army; and scarcely had the captive of Elba appeared on the coast of southern France, when Louis saw himself deserted and again driven into exile. But the Hundred Days were soon over, and the battle of Waterloo again replaced him upon his throne, which was now to be guarded by an army of foreigners. France was humiliated by the treaty of Vienna, exhausted, and utterly demoralized; the strifes of factions, ultra royalists and ultra liberals, broke out with unbridled fury, assuming in some parts of France the shape of bloody popular commotions and in others that of religious fanaticism; the finances of the kingdom were in a deplorable condition, while the requisitions of the restored old victims of the revolution knew no bounds. The king granted a charter, but almost every important part was gradually altered, his anxiety to heal the wounds of the distracted state being far superior to his ability to do it. There was as little harmony at the court and among the various ministries as there was in the chamber, in which Châteaubriand (1820) and Benjamin Constant became the most eminent leaders of the opposite parties. A better order and better feeling prevailed after the congress of Aix la Chapelle (1818), which reinstated France in its dignity as a great power, and the evacuation of its territory by the army of occupation. Some conspiracies were easily suppressed; the assassination of the duke of Berry by Louvel (1820) remained without effect, as the duchess of Berry was soon delivered of an heir to the throne, the duke of Bordeaux; and even the intervention of a French army under the duke of Angoulême, the king's nephew, for the restoration of Ferdinand VII. in Spain, could not entirely deprive Louis of the esteem and affection of the people. On his death the count of Artois succeeded to the throne under the name of Charles X.

LOUIS I. (LUDWIG KARL AUGUST), ex-king of Bavaria, born Aug. 25, 1786, succeeded to the throne Oct. 13, 1825, after the death of his father, King Maximilian Joseph. He distinguished himself particularly by his generous and enlightened patronage of letters and art, removed the university of Landshut, which, as well as that of Göttingen, he had himself attend-

ed, to Munich, reorganized the academy of fine arts, and immortalized himself by the construction of the Odeon, Basilica, Pinakothek, Walhalla, and other public works and monuments, destined to be repositories for works of art, or to diffuse a love of art. In the sphere of learning, he encouraged more especially historical studies, and his taste for poetry is attested by his own publications, *Gedichte* (1829) and *Walhalla's Genossen* (1848). In the early part of his administration he showed a leaning toward a popular policy; but the ultramontane party predominated in his councils from 1831 until 1847, when general hostility to its influence led to its downfall, without diminishing, however, the public excitement, which was increased by the supposed influence of Lola Montez over the mind of the king. In Feb. 1848, disturbances broke out in Munich, after which Lola fled, and a short time afterward the king himself went into retirement (March 20), resigning in favor of his son Maximilian. By his marriage in 1810 with the princess Therese of Saxe-Hildburghausen, (who died in 1854), he had 8 children: 1, the present king Maximilian II.; 2, King Otho of Greece; 3, Prince Luitpold, married to Augusta of Tuscany; 4, Prince Adalbert, married in 1856 to the infanta Amalia of Spain; 5, Mathilde, married to the grand duke Louis III. of Hesse-Darmstadt; 6, Adelgunde, the wife of the grand duke of Modena; 7, Hildegard, the wife of Archduke Albrecht of Austria; and 8, Alexandra, still unmarried.

LOUIS IV., THE BAVARIAN, emperor of Germany, born in 1286, died near Fürstentel, in the neighborhood of Munich, Oct. 11, 1347. He was the son of Louis the Severe, duke of Bavaria, and of Matilda, daughter of the emperor Rudolph I. of Hapsburg, and after the death of his father, having been for some years under the tutelage of his mother, became co-regent with his elder brother Rudolph in their hereditary possessions. On the sudden death of the emperor Henry VII. of Luxemburg in Italy (1313), he was chosen as his successor by the majority of the electors, while his late friend Frederic the Fair of Austria, like himself a grandson of Rudolph of Hapsburg, and son of the emperor Albert I., was proclaimed emperor by the minority, under the name of Frederic III. (1314). A long war between the two rivals ensued, which, after the devastation of a large part of Germany, was terminated by the battle of Mühldorf (Sept. 28, 1328), which made Frederic the captive of Louis. Treated humanely at the castle of Trausnitz, Frederic was released from captivity in 1325, on condition that he would return if he should prove unable to persuade his adherents to acknowledge the imperial title of the victor. Not succeeding in this object, Frederic kept his promise, and Louis not only renewed his early friendship with him, but also made him governor of his hereditary possessions in Bavaria. He had in the meanwhile incurred the hostility and excommunication of Pope John

XXII., by supporting against him the Visconti in Lombardy. In 1827 he started for Italy, and was crowned in Milan and Rome, though at the latter place not by the pope, against whom he now elevated Nicholas V. to the papal dignity. But this arbitrary step caused a general movement against the emperor in Italy, which compelled him speedily to retire from Rome. John XXII. not only maintained himself, but he, as well as his successors, continually endangered the position of the emperor by raising up foreign enemies and rivals in Germany. Of the latter, Charles of Bohemia was elected emperor in 1346. Louis, however, having strengthened his power in Germany by patronage bestowed on his son Louis, as well as by the inheritance of Holland, Zealand, Friesland, and other possessions through his wife Margaret of Holland, was enabled in 1347 to prepare for another expedition to Italy, when he suddenly died while hunting, of apoplexy, or, as some believed, of poison. Charles succeeded him as the 4th of that name.

LOUIS, PIERRE CHARLES ALEXANDRE, a French physician, born in AI, department of Marne, in 1787. He received his degree of M.D. at Paris in 1813, and subsequently entered the *Hôpital de la charité* in that city, where he studied diagnosis and pathological anatomy. His first works, *Recherches anatomico-pathologiques sur la phthisie* (8vo., Paris, 1825), and *Recherches sur la membrane muqueuse de l'estomac, &c.* (1826), procured him admission to the academy of medicine. His reputation meanwhile rapidly increased, and his position as a pathologist was one of the most eminent in Paris. In 1828 he was a member of the medical commission sent to Gibraltar to examine into the causes and cure of yellow fever, and concurred in the report on the disease published in 1832. Since 1854 he has retired from practice, with the reputation of one of the first physicians in his peculiar department in Europe. Among his remaining works are: *Recherches sur la fièvre typhoïde* (2 vols. 8vo., 1828); *Recherches sur les effets de la saignée dans quelques maladies inflammatoires* (8vo., 1835); a variety of memoirs and papers on medical subjects, &c.

LOUIS D'OR, a French gold coin, first struck under Louis XIII. in 1641. It has fluctuated in value, but subsequent to 1785 was coined at the rate of 82 to the mark of gold 22 carats fine, having an intrinsic value of about 20s. sterling (£4.84). No coins of this name are now struck, although the term is still applied to the 20 franc gold pieces of the French mint.

LOUIS NAPOLEON. See BONAPARTE, vol. iii. p. 471.

LOUIS PHILIPPE, king of the French from 1830 to 1848, born in the Palais Royal, Paris, Oct. 6, 1778, died in exile in Claremont, near London, Aug. 26, 1850. He was the son of Philippe Egalité, duke of Orleans, and of Louise de Bourbon Penthièvre. On his father's side he was descended from a brother of Louis XIV.; on his mother's from the count

of Toulouse, a natural but legitimized offspring of that monarch and Mme. de Montespan. His godfather was Louis XVI.; his godmother, Marie Antoinette. His earliest preceptor was M. de Bonnard. In 1781 he was placed under the care of Mme. de Genlis, whose opinions in regard to education were modelled after those of Jean Jacques Rousseau. She taught her pupil to cherish habits of hardihood and enlarged views of humanity, which manifested themselves throughout his life in a remarkable capacity of patient and cheerful endurance, and in a general equanimity and kindliness of disposition; in addition to which he was amply qualified by a naturally philosophical and well balanced mind, which was conspicuous even at that early age, to become a calm and shrewd observer of men and things. In 1785, when his father became duke of Orleans, he exchanged his original title of duke of Valois for that of duke of Chartres, with the rank of a colonel in the army. Following his father's example, and notwithstanding his mother's opposition, he was carried away by the enthusiasm of the revolution of 1789, and gave his solemn allegiance to its principles (Feb. 9, 1790), took an active part in the Jacobin club, acquired popularity by his conduct on several occasions, was appointed commandant of Valenciennes (Aug. 4, 1791) and lieutenant-general (Sept. 11, 1792), and displayed much courage in several engagements, particularly at the battle of Valmy under Kellermann (Sept. 20) and at Jemmapes (Nov. 6) under Dumouriez. A temporary visit to England having brought his sister and Mme. de Genlis under the category of *émigrées*, they were banished from Paris; and Louis Philippe left his post to escort them to a safe retreat in Belgium, but soon returned to aid in the bombardment of Venloo and Maestricht, and to take a brilliant share in the battle of Neerwinden (March 18, 1798). Dumouriez having incurred the suspicion of the convention, Louis Philippe shared his flight to Mons, and afterward retired with his sister and Mme. de Genlis to Switzerland. The feeling in the convention against the royal princes became in the mean time greatly exasperated. Louis Philippe was considered as an accomplice in the alleged conspiracies of Dumouriez; Marat proposed to offer a reward for his head; and his father and the other members of his family were arrested. These circumstances aggravated the difficulties of Louis Philippe's wanderings. He spent only a short time at Schaffhausen, and soon left Zürich and Zug for a refuge of greater safety, which was vouchsafed to him by a brother exile, Gen. Montesquiou, at Bremgarten in the canton of Aargau. Leaving the two ladies at the convent of St. Clara, he proceeded on foot over the Alps, accompanied by his devoted servant Baudoin, at times short of money, shelter being denied to him by the monks of St. Gotthard and in several other localities. Subsequently Montesquiou procured employment for him in a boarding school of Reichenau, Gri-

sons, where he gave lessons in mathematics and geography under the name of Chabaud-Latour for several months, until Nov. 1794, when the fatal news of his father's execution reached him. He then returned to Bremgarten under the assumed name of Corby; but fearing to involve his friend in difficulties, he left Switzerland for Hamburg in March, 1795, where he happened to meet Dumouriez, and from which place he intended to proceed to the United States, Mme. de Flahault having secured for him the good will of Gouverneur Morris, then American minister in France. Unable to sail before 1796, he employed the interval in exploring Denmark, Sweden, Norway, Lapland as far as lat. 72° N., and Finland, returning to Hamburg in Jan. 1796. On Sept. 24 he took passage on the ship *America* as a Danish subject, and landed in Philadelphia, Oct. 21, 1796. In company with the duke de Montpensier and the count de Beaujolais, who after the recovery of their liberty had lost no time in joining their elder brother, Louis Philippe now made the tour of the United States. The three brothers proposed to go to Spain, where their mother lived in exile, but were detained at Havana by order of the court of Madrid, and eventually compelled to return to the United States. They sailed from New York for England, arriving there in Jan. 1800; and after several fruitless attempts to visit Spain, they took up their abode in Twickenham, near London, only occasionally leaving their modest retreat to make excursions in the interior of England and of Scotland. Louis Philippe's fondness for travelling and eagerness for knowledge remaining unabated. His two brothers, faithful companions in his misfortunes, both died of consumption; the duke de Montpensier in Jan. 1807, and the count de Beaujolais in June, 1808, the latter while on his way to Malta. Louis Philippe now repaired to Messina, and next to the court of Ferdinand IV. at Palermo. He there made the acquaintance of Ferdinand's accomplished and pious daughter, Marie Amélie; but being induced to accompany her brother to aid the Spanish Bourbons against King Joseph Bonaparte, he was stopped at Gibraltar by order of the British government and brought to England, where however he received the long coveted permission to visit his mother in Spain. Joined at Portsmouth, after 14 years' absence, by his sister Adelaide, they had at length the satisfaction of beholding once again their venerable mother, who had been living first at Barcelona and afterward at Figueras since 1797. Louis Philippe now proceeded in company with his mother and sister to Palermo, where his marriage with Marie Amélie took place in the royal chapel, Nov. 25, 1809. In the spring of 1810 he again endeavored to use his influence in behalf of the Spanish Bourbons; but, once more thwarted by English diplomacy, he returned to Palermo, where his first child (afterward duke of Or-

leans) had been born during his absence (Sept. 8, 1810). His reconciliation with the elder branch of the Bourbon family having been effected in 1799, very much through their common hatred of Napoleon, the fall of the emperor permitted Louis Philippe to return to France in April, 1814, after an exile of 21 years. He soon brought his family to Paris. His rank in the army, the estates of his father and his own, were all restored to him, while the considerable property of the duke of Penthièvre was restored to his mother. Louis XVIII., however, dreaded the influence of Louis Philippe, who, as the emperor Alexander I. once remarked in the saloon of Mme. de Staël, was the only Bourbon prince of a liberal turn of mind. On Napoleon's return from Elba, Louis Philippe went to Lyons to coöperate with the count of Artois, and was subsequently commander-in-chief in the N. departments until March 24, when he retired to England. After the battle of Waterloo he returned to Paris, and remained there until Oct. 18, 1815, when his protest against the reactionary policy of Louis XVIII. became once more the signal for his retreat to Twickenham. In Feb. 1817, he at length obtained permission to return to France, but the title of royal highness was not accorded to him until the accession of Charles X. in 1824. With the latter he was personally on friendly terms, but vainly urged him to liberalize his policy. Louis Philippe looked upon the support of the middle classes or *bourgeoisie* as the only substantial guaranty for safety between the extremes of republicanism and absolutism. At the same time his generous hospitality to politicians, men of letters, and artists, contrasted favorably with the rigid exclusiveness of the court of Charles X. The charms of his conversation fascinated all who came in contact with him, and he won public favor by the amenity of his manners and by the virtues of his domestic life. Indeed, in his devotion to his wife and children and in the thrifty management of his vast estates, he displayed those qualities which are most highly valued and best understood by the middle classes, while with all his pride of birth he had little or nothing of the haughtiness which they abhor in princes and nobles. During the revolution of July, 1830, his name occurred to Lafayette, Béranger, and other leaders of the movement, as the only one which could rally the nation in support of constitutional monarchy; and after some hesitation Louis Philippe accepted the title of lieutenant-general of the kingdom, his public reception at the Hôtel de Ville taking place on July 31, where together with Lafayette he appeared at the window with a tricolor flag, and the general embraced the duke. A provisional public administration was formed, including Dupont (de l'Eure), Gen. Gérard, Baron Louis, and Guizot, the last two names being much commented upon on account of their associations with the old dynasty. At the sitting of the chambers on Aug. 7 the con-

stitution was modified, the forfeiture of the old dynasty pronounced, and a new one instituted, 219 out of 252 votes electing Louis Philippe as king of the French. The peers approved the action of the deputies, notwithstanding the eloquent remonstrances of Châteaubriand. The solemn transfer of the crown took place on Aug. 9 in the Palais Bourbon, at a royal *séance* of both chambers, when Louis Philippe made his entry to the sound of the *Marseillaise* and the noise of cannon fired at the Invalides, accepting the crown, and, amid cries of *Vive le roi*, swearing faithfully to observe the modified charter. One of the first acts of Louis Philippe was the nomination (Sept. 4, 1830) of Talleyrand as ambassador to London, which bound French diplomacy to the maintenance of the treaties of 1815 and the renunciation of the Russian alliance, and laid the foundation for that between France and England. The first 6 years of his reign were spent in combating the legitimist, Bonapartist, and republican parties. The trial of the ex-ministers of Charles X. gave rise to serious disturbances, in appeasing which Lafayette compromised his popularity and forfeited his commandship of the national guard, to the great relief of Louis Philippe, who feared the influence of the man who had ushered him into power. Guizot, De Broglie, and their friends, the so called *doctrinaires*, were dismissed, and Laffitte placed at the head of the administration (Nov. 2, 1830). Universal suffrage was rejected, but a new electoral law was passed, which became the basis of what Guizot called the middle class tory party. The leader of this party, Casimir Périer, succeeded Laffitte, March 13, 1831, and remained prime minister until his death in May, 1832. An exciting discussion was opened in the chambers about a programme which Louis Philippe is alleged to have shown to Lafayette in 1830, and containing terms of government far more liberal than those of his actual administration. Poland was left to her fate, and after the occupation of the Polish capital by the Russians, the announcement that "order reigns in Warsaw" was made in the chamber by Count Sebastiani. Paris became the scene of an insurrection during the funeral of Gen. Lamarque (June, 1832). This having been put down by force of arms, a new administration was formed by Soult, Oct. 11, 1832, including De Broglie, Guizot, and Thiers, and which, with some modifications, continued in power until Feb. 22, 1836. It remained on the whole faithful to the *juste milieu* policy of Louis Philippe in home affairs, in steering between the extremes of parties, and to his *paix à tout prix* policy in foreign affairs. The Belgian revolution was settled by the choice as king of Leopold of Saxe-Coburg, whose relation with Louis Philippe became still more intimate by his marriage with his daughter, the princess Louise; and a French army under Gérard crossed the Belgian frontier and after an obstinate siege conquered the citadel of Antwerp for Leopold (Dec. 1832). In Italy the

influence of Austria was counterbalanced by the occupation of Ancona (Feb. 1832). A quadruple alliance between France, England, Spain, and Portugal was signed in 1834. Public order was especially threatened by the criers or vendors of inflammatory publications, and a law making a license requisite for the exercise of that calling was passed, but not without causing disturbances. A new system of primary education was introduced, savings banks were established, and other kindred measures passed; but the revolutionary spirit, although curbed, was not crushed, and Louis Philippe's situation was surrounded with great perils, as attested by the bloody insurrections at Lyons (1831 and 1834), Grenoble, and Paris (1834), republican conspiracies by the elder Cavaignac, Marrast, and others, the attempted insurrection in the west of the kingdom by the duchess of Berry (1832), who was punished by imprisonment in the fortress of Blaye, and especially by the numerous attempts upon the king's life, the most formidable of which was that of Fieschi, July 28, 1835. This man, who was born in Corsica in 1790, had been a soldier, but afterward led the life of a spy and vagabond, and was connected with various political conspiracies. In concert with Morey and Pépin he exploded an infernal machine with 22 gun barrels, and containing numberless projectiles, from a house in the boulevard du Temple at the king, while the latter was engaged in holding a military review. The king barely escaped with his life, and Marshal Mortier and a number of persons near him were killed on the spot. Fieschi and his accomplices were executed, Feb. 16, 1836. An attempted military insurrection at Strasbourg in favor of Louis Napoleon, as a pretender to the throne, was easily suppressed. From without Louis Philippe was met by the distrust of the foreign powers, especially of Russia, concerning the stability of his government. From 1836 to the end of 1840 the history of his reign is that of contests between him and the chambers, and of rivalries between Thiers, Guizot, Molé, and Soult, who were successively at the head of the administration. Thiers withdrew on account of the opposition of the king and of the chambers to his views about intervention in the affairs of Spain and of other countries, and the defeat of the Guizot-Molé cabinet was hastened by the opposition to Louis Philippe's demands for the aggrandizement of his family. Under the Molé administration, a general amnesty was granted on occasion of the marriage of the duke of Orleans with Helena of Mecklenburg (May 30, 1837); and the foundation of the national museum of Versailles, which was inaugurated June 10, was one of the great achievements of Louis Philippe's reign. A coalition of Guizot, Thiers, Odilon Barrot, Berryer, and Garnier-Pagès led to the downfall of Molé and to a ministerial crisis, which ended in placing power in the hands of Soult, who was in his turn supplanted by Thiers (March 1, 1840). During his administration the second

attempt of Louis Napoleon to excite an insurrection in his own behalf took place at Boulogne, in consequence of which that prince was imprisoned in the fortress of Ham. Strikes and riots among the working classes were rife at the time, and new names were added to the list of fanatics or maniacs who conspired against the life of Louis Philippe. But the principal difficulties of Thiers's administration were in connection with the conflict between the viceroy of Egypt and the sultan. Thiers wished France to interfere in favor of the former, and really commenced extraordinary armaments; but finding himself once more at variance with the peace policy of Louis Philippe, a new administration under Soult and Guizot was formed (Oct. 29, 1840). Henceforth, until the revolution of 1848, Soult remained in power, but few modifications taking place in his cabinet, of which Guizot was the master spirit, and Duchâtel and Villemain eminent members. Conspicuous among the measures of the administration was the fortification of Paris, which had been proposed by Thiers, and the law of 1842 for the establishment of the great railway lines. In 1840 (Dec. 15) the body of Napoleon I. was brought to Paris by the prince de Joinville, and interred in the Invalides. The peace at home was on the whole not materially broken, while the war in Algeria was carried on with continued energy, leading also to a short war with Morocco (1844); but domestic afflictions overtook Louis Philippe, who had already been plunged in sorrow in 1839 by the death of his accomplished daughter Marie, and who was still more severely tried in 1842 by the loss of the duke of Orleans, whose life might have possibly averted the revolution of 1848, and whose death was justly considered as a national calamity. In foreign affairs the long cherished *entente cordiale* with England reached its climax in 1843-'5, when visits were exchanged between the queen of England and Louis Philippe; but it was shaken by the Pritchard indemnity question, and seriously broken by the Spanish marriages, in which Louis Philippe is said to have taken a selfish and sinister part. The great glory of his reign, however, was the conquest of Abd el Kader, the colonization of Algiers, and the formation of an army and a school of generals who have since added new lustre to the arms of France. Compared with the convulsions in the earlier part of his reign, the Soult-Guizot administration was marked by calm and prosperity. In 1847, however, the shortness of the crops entailed much suffering upon the people. Scarcity caused disturbances, and bread riots broke out in various parts of the country. Banquets for the discussion of political reforms were proposed. One announced to be held Feb. 22, 1848, was opposed by the government, but Odilon Barrot, Ledru-Rollin, and other popular leaders insisted upon its taking place. Louis Philippe, unconscious of the coming storm, was reluctant to see it suppressed by force of arms, and at length

(Feb. 28), when it became necessary for the government to call the national guard to its assistance, that body answered with shouts of *Vive la réforme*. Numberless barricades sprang up in almost every quarter of Paris; the king's abdication in favor of his grandson came too late, his throne was burned on the Place de la Concorde, and the chamber of deputies finally sanctioned the overthrow of the monarchy (Feb. 24). On the morning of Feb. 25, when the old monarch with some members of his family had already fled from the capital, he was apprised of the proclamation of the republic. With great difficulty he succeeded in crossing the Seine with his wife from Honfleur to Havre under the name of Smith. From thence he was carried by a steamer sent for his use by the English government, and arrived on March 4 at Claremont, the palace of the king of the Belgians, near London, where he spent the rest of his life.

LOUISA. I. A central co. of Va., bounded N. by the North Anna river, and drained by the South Anna and Little rivers; area, 570 sq. m.; pop. in 1850, 16,691, of whom 9,864 were slaves. The surface is hilly, and the soil somewhat exhausted. It contains gold mines, which have, however, not been found profitable. The productions in 1850 were 199,521 bushels of wheat, 377,288 of Indian corn, 1,584,285 lbs. of tobacco, and 23,427 of wool. There were 26 churches, and 452 pupils attending public schools. Value of real estate in 1856, \$3,450,886; increase since 1850, 81 per cent. Capital, Louisa Court House. II. A S. E. co. of Iowa, bordered on the E. by the Mississippi, and intersected by the Iowa river; area, 542 sq. m.; pop. in 1859, 10,805. The soil is very fertile, especially on the borders of the streams. The productions in 1859 were 67,186 bushels of wheat, 8,210 of oats, 588,624 of Indian corn, 18,036 of potatoes, and 9,371 tons of hay. Capital, Wapello.

LOUISA (LUISE AUGUSTE WILHELMINE AMALIE), queen of Prussia, born in Hanover, March 10, 1776, died at the palace of Hohenzieritz, near Strelitz, July 19, 1810. She was the daughter of Duke Charles of Mecklenburg-Strelitz. After the death of her mother in 1782, she was placed under the care of her grandmother the landgravine of Hesse-Darmstadt, and received an excellent private education. She was married, Dec. 24, 1793, to the crown prince of Prussia, who succeeded to the throne in 1797 as Frederic William III. During the campaign of 1806 she accompanied him to Thuringia, and after the battle of Jena to Königsberg. After the fatal battle of Friedland in 1807 she visited Napoleon at Tilsit, with a view of obtaining for Prussia favorable conditions of peace; but not succeeding in her negotiation, she rejoined her husband at Memel, and in 1808 returned with him to Königsberg, from whence she proceeded at the end of the year to St. Petersburg. She went to Berlin in 1809, and died the next year while on a visit to her father at Strelitz. Carlyle in his "Fred-

eric the Great" refers to her as "the famous Queen Louisa of Prussia, beautiful to look upon, and who showed herself a heroine in Napoleon's times." She was greatly beloved by the Prussian people.

LOUISBURG, a town of the British colony of Cape Breton, situated on the S. E. side of the island, in lat. 45° 54' N., long. 59° 52' W. Its present population consists of only a few fishermen. After the surrender of the French settlements in Nova Scotia to England by the peace of Utrecht in 1713, emigrants from those settlements occupied the coasts of the neighboring island of Cape Breton, and Louisburg, so named in honor of Louis XIV., began to be fortified by the French government on a gigantic scale with the intention of making it the strongest fortress in America, and a commanding naval, fishing, and commercial station. The town was about 2½ m. in circumference, and stood upon a neck on the S. side of the harbor, a beautiful and extensive land-locked basin with an entrance half a mile broad. It was fortified by a wall from 80 to 36 feet high, with a ditch 80 feet broad. The main works mounted 65 heavy cannon and 16 mortars. On Goat island at the entrance of the harbor was a battery of 80 guns, and at the bottom of the harbor opposite the entrance was another called the royal battery, which mounted also 80 guns. A lighthouse visible 15 miles at sea stood on a high cliff opposite the island battery. The town was laid out in regular squares, with broad streets, and houses built mostly of wood, but many of stone. The fortifications had been nearly 80 years in building, and had cost the French government upward of \$5,000,000. The neighborhood of Louisburg caused great uneasiness in New England, whose important interest in the fisheries was threatened with entire ruin by the privateers who found refuge in its spacious harbor. In 1745, Great Britain being at war with France, Gov. Shirley of Massachusetts devised a plan for taking Louisburg, which was adopted by the legislature of that province in secret session by a majority of one vote. Forces were promptly raised, and William Pepperell, a merchant of Kittery, was appointed commander. Connecticut sent 516 men, New Hampshire 304, and Massachusetts 3,250. Embarked in 100 New England vessels, and supported by a British squadron under Commodore Warren, they landed near Louisburg on April 30. The place was defended by a garrison of 1,600 men commanded by Duchambon. A detachment stationed in the royal battery on the shore of the harbor was struck with panic at the approach of the New Hampshire troops led by William Vaughan, and spiked their guns and abandoned their post in the night. Vaughan took possession of it next morning, and beat off the French who attempted to recover it. Major Seth Pomroy, a gunsmith from Northampton, with 20 other smiths, succeeded in drilling out the cannon, and fire was soon opened on the city. The siege, though prosecuted with energy and

vigilance, was conducted in the most irregular and unscientific manner. "The troops," says Bancroft, "made a jest of technical military terms; they laughed at proposals for zigzags and epaulements. . . . The men knew little of strict discipline; they had no fixed encampment; destitute of tents to keep off the fogs and dews, their lodgings were turf and brush houses; their bed was the earth—dangerous resting place for those of the people unacquainted with lying in the woods. . . . All day long, the men, if not on duty, were busy with amusements—firing at marks, fishing, fowling, wrestling, racing, or running after balls shot from the enemy's guns." At length, on May 18, a large French ship of war laden with military stores for the supply of the garrison, and with a body of troops on board, was intercepted and taken by the English fleet. Disheartened by this disaster, and alarmed by the erection of a battery on the lighthouse cliff which commanded Goat island, the French commandant Duchambon capitulated on June 17, the 49th day of the siege. This achievement called forth great rejoicings in New England and in New York and Philadelphia, and its influence was felt 30 years later at the beginning of the revolutionary war. Col. Gridley, who planned Pepperell's batteries, laid out the American intrenchments at Bunker hill; the same old drums that beat on the triumphal entrance of the New Englanders into Louisburg, June 17, 1745, beat at Bunker hill, June 17, 1775; and when Gen. Gage was erecting breastworks on Boston neck, "the provincial troops sneeringly remarked that his mud walls were nothing compared with the stone walls of old Louisburg." In England, the news was received with bonfires and illuminations in London and other cities; and such was the impression made by the exploit, that it was considered an equivalent for all the successes of the French upon the continent, and the first lord of the admiralty declared that "if France were master of Portsmouth he would hang the man who should give Cape Breton in exchange." Nevertheless, by the peace of Aix la Chapelle in 1748, Louisburg was restored to France. In 1757, during the 7 years' war, the earl of Loudon, British commander-in-chief in North America, collected at Halifax a force of 6,000 regulars, 4,000 provincial troops from New England, and large numbers from New York and New Jersey, for an attack on the fortress; but on learning that the garrison consisted of 6,000 regular soldiers, and that 17 French line-of-battle ships were moored in the harbor, he abandoned the project. A second expedition under Gen. Amherst, consisting of 14,000 men and a fleet of 20 ships of the line and 18 frigates, sailed from Halifax, May 28, 1758, against Louisburg, which was defended by the chevalier de Drucourt with 3,100 men. The harbor being secured against attack by a fleet of 8 ships, and the entrance blocked by 3 sunken frigates, a landing was effected at the creek of Cormoran, June 8, and Gen. Wolfe, who afterward

took Quebec, advanced with 2,000 men against a detached post, which was abandoned at his approach. Strong batteries were erected here, and also on the opposite side of the town, and a heavy cannonade directed against the town and the shipping in the harbor. Three of the large men-of-war were at length set on fire by bombs, and two others captured by boats. Breaches were made in the walls, and after a gallant defence the garrison surrendered, July 26, and, together with sailors and marines, amounting collectively to 5,637 men, were carried prisoners to England. The town was almost a heap of ruins. The inhabitants were transported to France in English ships, and the fortifications were soon after demolished by the British government.

LOUISIANA, one of the gulf states of the American Union, and the 4th among the new states admitted under the federal constitution, lying between lat. 28° 50' and 38° N., and long. 88° 40' and 94° 10' W.; extreme length E. and W. 290 m., extreme width N. and S. 200 m.; area, 41,255 sq. m., or 26,408,200 acres. It is bounded N. by Arkansas (on the 33d parallel) and Mississippi (on the 31st parallel); E. by Mississippi, from which above lat. 31° it is separated by the Mississippi river, and below lat. 31° by Pearl river; S. by the gulf of Mexico; and W. by Texas, from which through the southern two thirds of the line it is separated by the Sabine river and bay. Louisiana is divided into 48 parishes (corresponding to the counties of other states), viz.: Ascension, Assumption, Avoyelles, Baton Rouge East, Baton Rouge West, Bienville, Bosier, Caddo, Calcasieu, Caldwell, Carroll, Catahoula, Claiborne, Concordia, De Soto, Feliciana East, Feliciana West, Franklin, Iberville, Jackson, Jefferson, Lafayette, Lafourche, Livingston, Madison, Morehouse, Natchitoches, Orleans, Ouachita (Washita), Plaquemine, Pointe Coupée, Rapides, Sabine, St. Bernard, St. Charles, St. Helena, St. James, St. John Baptist, St. Landry, St. Martin, St. Mary, St. Tammany, Tensas, Terrebonne, Union, Vermillion, Washington, Winn.—New Orleans, the chief city of Louisiana and the commercial depot of the great central valley of the United States, is situated on the E. bank of the Mississippi, 105 m. from the sea. Baton Rouge, 180 m. above New Orleans, is the political capital. The other more important towns are Alexandria, on the Red river; Algiers and Gretna, opposite New Orleans; Bayou Sara and St. Francisville, on the bayou Sara; Carrollton, 7 m. above New Orleans; Donaldsonville, on the Mississippi, formerly the capital; Franklin, on the bayou Teche; Harrisonburg and Monroe, on the Washita river; Lakeport, on Lake Pontchartrain, behind New Orleans; Madisonville, on the N. shore of the same lake; Natchitoches, on the Red river; New Iberia, on the bayou Teche; Plaquemine, on the Mississippi; Pointe Coupée, on the Mississippi opposite Bayou Sara; Proctorsville, on the S. shore of Lake Borgne; St. Martinsville, on Bayou Teche; Vermilion-

ville, near Vermilion river; Shreveport, on the Red river below the "great raft;" and Thibodeauxville, on the bayou Lafourche.—The population of the state in 1810 and at subsequent decennial periods, and in 1855, was as follows:

U. S. census.	White.	Free colored.	Slaves.	Total.
1810.....	84,311	7,585	84,660	76,556
1820.....	78,888	10,476	69,064	158,407
1830.....	89,441	16,710	109,588	215,739
1840.....	158,437	25,502	168,452	352,411
1850.....	255,491	17,463	244,809	517,763
State census.				
1855.....	301,764	22,848	268,167	587,774

Of the population in 1850, 274,596 were males and 243,166 females, viz.: whites—males 141,243, and females 114,248; free colored (8,379 blacks and 14,088 mulattoes)—males 7,479, and females 9,983; slaves (224,974 blacks and 19,835 mulattoes)—males 125,874, and females 118,935. Dwellings, 49,101; families, 54,112. Density of population, 12.55 to the square mile; proportion to that of the whole Union, 2.23 per cent. Of the total population in 1850, 12,232 were under 1 year of age; 1 and under 5, 61,202; 5 and under 10, 65,458; 10 and under 15, 57,828; 15 and under 20, 47,770; 20 and under 30, 108,224; 30 and under 40, 83,544; 40 and under 50, 46,251; 50 and under 60, 21,168; 60 and under 70, 9,745; 70 and under 80, 3,145; 80 and under 90, 941 (slaves 544); 90 and under 100, 255 (slaves 140); 100 and upward, 176 (slaves 123); unknown, 323. Of the free population, 145,474 were born in Louisiana, 60,447 in other states, and 66,413 in foreign countries. Of those born in other states, Mississippi contributed 10,918, Alabama 7,346, Georgia 5,917, New York 5,610, South Carolina 4,583, Tennessee 3,852, Virginia 3,216, North Carolina 2,923, Kentucky 2,968, and Pennsylvania 2,493; in foreign countries, Germany 17,887, France 11,452, Great Britain 4,794, Ireland 24,266, and Spain 1,417. Deaf and dumb, 117 (white 82, free colored 8, slaves 32); blind, 214 (white 72, free colored 20, slaves 123); insane, 200 (white 144, free colored 11, slaves 45); idiotic, 174 (white 106, free colored 6, slaves 62). The number of slaveholders was 20,670, viz.: holding 1 slave, 4,797; 1 and under 5, 6,072; 5 and under 10, 4,327; 10 and under 20, 2,652; 20 and under 50, 1,774; 50 and under 100, 728; 100 and under 200, 274; from 200 to 800, 36; from 800 to 500, 6; from 500 to 1,000, 4. Of 77,178 white and free colored males over 15 years of age in 1850, 32,879 were employed in commerce, trade, manufactures, mechanic arts, and mining; 18,639 in agriculture; 15,364 in labor not agricultural; 45 in the army; 4,263 in sea and river navigation; 1,827 in law, medicine, and divinity; 2,444 in other pursuits requiring education; 811 in government civil service; 508 in domestic service; and 488 in other occupations. The number employed in manufacturing establishments producing more than \$500 per annum was 6,487. The federal population in 1850 was 419,886, and entitled Louisiana to 4 representa-

lives in congress.—Louisiana has a coast line of 1,256 m. on the gulf of Mexico. This includes the many irregular bays and other indentations, but not the islands belonging to the state, which have an aggregate coast line of 994 m. Toward the S. E. extremity of the state lies Lake Borgne, which is properly a bay, communicating by two channels with Lake Pontchartrain. Black bay is situated to the S. of Lake Borgne; Bay Ronde and West bay lie on either hand of the delta of the Mississippi; and on the S. coast are Barataria, Timbalier, Caillou, Atchafalaya, Côte-Blanche, and Vermilion bays. Although the entire coast except in the S. W. part is exceedingly irregular, there are not many good harbors. The Chandeleur islands, which lie opposite the peninsula of St. Bernard parish, between Lake Borgne and Black bay, form a good roadstead. Beside numerous ponds and lagoons among the salt marshes which line the S. shores, there are some considerable lakes, most of which are expansions of the rivers. Of these, Ouddo and Bistineau in the N. W., Catahoula in the centre, Chetimaches in the S., and Maurepas and Pontchartrain in the S. E., are the largest. The last two are expansions of the Amite river.—Louisiana is abundantly supplied with large rivers. The Mississippi forms the N. half of its E. boundary, and then entering the state crosses it in a S. E. direction to the gulf of Mexico, its mouth forming a delta. About 800 m. of its course belongs wholly or in part to Louisiana. Its W. bank is flooded at high water. It begins to send off branches to the gulf near the point where it enters the state, and the whole S. E. portion of the country lying on its right bank may be said to belong to the delta. The Red river enters from Arkansas in the N. W., and joins the Mississippi near the outflowing of the Atchafalaya, the first of the deltoid arms. It receives on its N. bank the Washita or Black and several smaller streams. The S. W. part of the state is drained by the Sabine, forming the boundary with Texas, the Calcasieu, and the Mergementau. On the S. E. is the Pearl river, marking the frontier of Mississippi.—The face of the country is generally low and level, nowhere attaining an elevation of more than 200 feet above the sea. In Catahoula parish the elevation is only 68 feet above the gulf, while in the S. part nearly one fourth of the state lies but 10 feet above the sea, and is annually inundated by the spring floods. Most of the delta, and indeed the whole S. coast as far as Texas, is consequently occupied by salt marshes. In the centre are vast level prairies, and in the N. and W. the country is somewhat broken and diversified by low hilly ranges. This last region, comprising about one half of the entire state, consists principally of pine barrens, yielding an abundance of pitch pine, and containing also oak, elm, cypress, honey locust, and other timber. The E. corner of the state, lying between the Mississippi and Pearl and Lake Pontchartrain, and the state of Mississippi, resembles the region last described in general configuration and

forest growth.—Louisiana presents many features of geological interest. In ascending the Mississippi, its banks, protected in the lower part of the river by levees, first rise to form a natural barrier a few feet above the highest level of the river at Baton Rouge; at Port Hudson, 25 m. further up, the bluffs are nearly 100 feet high; and at Natchez they attain a height of 200 feet. The sections thus exposed by the rivers present to view the layers of clay, loam, sand, pebbles, and vegetable matter, that make up the alluvial deposits of which all the lower portion of the state is composed. Among these, as at Port Hudson, are seen at different levels, the lowest at the level of low water, beds of black mud with standing stumps of cypress and other trees, which must have grown in the spots where they are now found. Local subsidence of the surface and relevation can alone explain the phenomenon of the repetition of such beds at different levels. These deposits are characterized by land and fresh water shells like those now living in the vicinity, and they also contain bones of the mastodon, megalonyx, and various quadrupeds, mostly of extinct species. The tertiary of the eocene period is met with underlying the alluvial beds at Vicksburg near the level of the river, and the formation is traced westward, extending over all the N. part of the state, and nearly as far S. as Alexandria on the Red river. Beds of brown coal are found in the tertiary, and salt springs are common, some of which have been worked; but the mineral productions are of little importance. (See MISSISSIPPI RIVER.)—The soil of the river bottoms is exuberantly fertile, and the alluvial land is easily drained. Most of it is heavily timbered and covered with an undergrowth of cane. The prairies are not generally productive, and in some places are quite barren. The climate in winter, owing to north winds, is more severe than in corresponding latitudes on the Atlantic coast. The summers are long and hot, and mephitic exhalations from the marshes in autumn produce yellow fever and numerous other diseases. The vegetable productions of Louisiana comprise, among forest trees, the walnut, oak, sassafras, ash, hickory, poplar, locust, mulberry, magnolia, cottonwood, buckeye, papaw, cypress, pine, elm, maple, willow, hackberry, pecan, dogwood, and persimmon. The wild cane grows to a height of 15 to 30 feet. The peach, quince, plum, and fig are the principal fruits. The apple is also cultivated in the north. The staples of agriculture are cotton, sugar, and, to a less extent, rice, maize, and tobacco. Good pasturage is found on the prairies. In 1857-'8, according to Champomier, sugar was produced in 23 parishes, in which there were 1,294 sugar houses (938 worked by steam and 356 by horse power), and which produced 279,697 hhds. or 307,666,700 lbs. of sugar. Sugar culture was introduced in 1751, but there are no reports of production until 1828, when 68,000 hhds. were manufactured; from that year to 1838 the crops varied from 30,000 to

100,000 hhds., and thence to 1848 from 87,000 to 240,000 hhds. In 1849 the crop yielded 247,923 hhds., and thence yearly, to 1858 inclusive, 211,201, 236,547, 321,934, 449,324, 346,635, 231,427, 73,976, and 279,697 hhds. The product of Louisiana is very uncertain; it formerly, says Champomier, reached as high as 3,000 or 4,000 lbs., and in some cases even 6,000 lbs. to the acre; but for the last few years it has often ranged as low as 500 to 1,000 lbs. In Mauritius the product was formerly from 2,000 to 2,500 lbs. to the acre, but since the application of guano to the land the product in ordinary seasons is 6,000, 7,000, or even 8,000 lbs. The assessors' returns in 1855 differ somewhat from the above, and show that in that year 248,195 acres of land were cultivated in sugar cane, and produced 288,466 hds. of sugar and 1,285,888 bbls. of molasses. The amount of land cultivated in cotton in the same year was 616,788 acres, in Indian corn 642,391 acres, and in rice 3,177 acres; the products were 368,077 bales of cotton, 10,717,080 bushels of corn, and 81,449 bbls. of rice. According to the census of 1850, there were in the state 13,422 farms and plantations covering 4,989,043 acres, of which only 1,590,025 acres were under cultivation. These were valued at \$75,814,398, and the implements and machinery thereon at \$11,576,938. The live stock in 1850 consisted of 89,514 horses, 44,849 asses and mules, 105,576 milch cows, 54,968 working oxen, 414,798 other cattle, 110,333 sheep, and 597,301 swine, valued altogether at \$11,152,275; and the value of animals slaughtered in the census year was \$1,458,990. The products of agriculture proper consisted of wheat 417, rye 475, oats 89,637, and Indian corn 10,266,373 bushels; potatoes, Irish, 95,632, and sweet, 1,428,453 bushels; hay, 25,752 tons; hops, 125 lbs.; clover and grass seed, 99 bushels; products of market gardens, \$148,329, and of orchards, \$22,359; cane sugar 226,000 lbs., and molasses 10,931,177 galls.; ginned cotton, 178,737 bales of 1,000 lbs.; rough rice, 4,425,849 lbs.; tobacco, 26,878 lbs.; butter 683,069, and cheese 1,957 lbs.; beeswax and honey, 96,701 lbs.; wool, 109,897 lbs. The value of home manufactures in 1840 was \$65,190, and in 1850, \$139,232. The actual crops per acre in 1849 were as follows: Indian corn 16 bushels, rice 1,400 lbs., seed cotton 550 lbs., sweet potatoes 175 bushels, and cane sugar 1,000 lbs. The number of cotton plantations was 4,205, and of sugar planters 1,558. The total value of agricultural products in 1840 was \$17,976,017, and in 1850 only \$15,210,299. Manufactures, mining, and the mechanic arts were carried on in 1,017 establishments, in which a capital of \$5,318,074 was invested. In 1849-'50 the value of raw material used was \$2,958,988; the number of hands employed, 6,437, viz., 5,581 males and 856 females, at an annual cost of \$2,086,212; and the value of products was \$7,320,948.—The principal exports to foreign countries are cotton, sugar, and agricultural products generally, the produce not only of

Louisiana, but also of the whole valley of the Mississippi river, and a large portion of Texas and Mississippi, all of which are tributary to the commerce of New Orleans, which in 1850 received from the interior merchandise to the value of \$106,924,088, in 1855 to that of \$117,106,823, and in 1858 to that of \$167,155,546. The great bulk of this is exported coastwise, and by the same course the country receives its principal imports from the Atlantic ports. The direct foreign commerce of New Orleans indeed is comparatively but a small portion of the whole of the vast trade of which it is the centre. The tonnage and values of cargoes to and from foreign countries for the 10 years ending June 30, 1859, are represented in the following table:

Years.	Tons entered.	Tons cleared.	Imports.	Exports.
1850.....	350,553	360,987	\$10,760,499	\$28,105,250
1851.....	323,922	431,566	12,523,460	54,413,358
1852.....	424,281	544,482	12,057,724	49,058,855
1853.....	572,812	630,820	13,630,686	65,292,623
1854.....	499,227	603,755	14,422,154	60,931,823
1855.....	445,302	604,402	12,900,821	53,967,922
1856.....	670,265	778,162	16,682,392	80,883,089
1857.....	613,314	723,833	24,596,567	91,894,592
1858.....	539,047	733,393	19,586,083	85,874,995
1859.....	661,415	806,243	18,249,516	101,666,588

The foreign commerce of the state is principally with Great Britain, Cuba, France, Bremen, Spain, Brazil, and Mexico. In 1849 the shipping owned in the state amounted to 241,497 tons, of which 146,413 tons were steam; and in 1859 to 219,622 tons, of which 78,620 tons were steam. About 1,500 to 1,800 tons of shipping is annually built.—Within a few years a railroad has been constructed from New Orleans to Canton, 206 m. long, at a cost of \$7,142,563, and this with its connections reaches all the country north and the great systems extending to the Atlantic and to the westward. Another great railroad is projected from New Orleans to Houston, and also to Shreveport and northern Texas; and about 80 m. (cost \$5,877,525) of this are already in operation. There are also several short railroads. The state has several canals which are used as connecting links to its internal navigable waters. Externally it has steamship communication with all the domestic as well as foreign ports of the gulf, and with New York.—On Jan. 1, 1860, Louisiana had 19 banks, the liabilities of which were: capital \$24,215,689, circulation \$2,147,689, deposits \$22,586,731, profits on hand \$6,475,802, total \$55,425,411; and their resources: notes, bills of exchange, &c., \$37,182,643, specie \$15,847,268, real estate \$2,395,500, total \$55,425,411.—The government is based on the constitution of 1852, which guarantees the right of voting to every free white male citizen of the United States who has been one year a resident of the state and of the parish. The law-making power is confided to a legislature consisting of 32 senators, and not more than 100 nor fewer than 70 representatives. Senators must be at least 27 years of age and legal citizens of the state; they are elected for 4 years, one half every 2d year. Representatives are chosen for 2 years, are required to

be 21 years of age, and like the senators are paid \$4 a day. The legislature meets annually, and its sessions cannot be prolonged over 60 days. The governor (salary \$4,000) and lieutenant-governor (salary as president of the senate, \$8 a day) are elected by a plurality of votes for 4 years, and are required to be 35 years of age and residents of the state for 15 years. The principal other officers are the secretary of state (salary \$2,500), attorney-general (\$3,500), treasurer (\$2,500), auditor of accounts (\$4,000), surveyor-general (\$600), superintendent of public education (\$2,000), and state engineer (\$3,500). The judiciary consists of a supreme court, presided over by a chief justice and 4 associate judges, all elected by the people for 10 years; 18 district courts, and 6 special district courts in New Orleans. Judges of the inferior courts, the attorney-general, district attorneys, and other court officers, are elected by the people. In civil jurisprudence Louisiana has adhered to the systems of law which prevailed under the Spanish and French colonial administrations. In June, 1808, the territorial legislature passed an act appointing Messrs. James Brown and Louis Moreau-Lislet to prepare a civil code for the use of the territory, based upon the Spanish civil law, which still prevailed there. The result of their labors was the code of 1808, which remained in force until 1825, when a new code, based upon the preceding, being in fact a revision of it, with the addition of many articles from the *Code Napoléon*, was substituted for it. The code of 1825, known as the Louisiana civil code, was digested by Messrs. Edward Livingston and Moreau-Lislet. The sources of revenue are direct taxes, sales of public lands, and licenses of trades and professions. The total receipts for the year ending Dec. 31, 1858, amounted to \$1,819,741.69, and the total resources, including a remainder from the last financial term (\$1,058,058.76), to \$2,877,800.45. The expenditures are on account of the public debt, schools, the legislature, executive and judiciary, public buildings, charity hospital, deaf and dumb, orphans, the penitentiary, &c., and amounted in 1858 to \$1,872,058.43. The state debt, properly so called, amounted on Dec. 31, 1858, to \$4,379,090.95; to this should be added the state's liability for the property banks, \$6,124,311.10, and for the 2d municipality of New Orleans, \$198,240, making a total of \$10,701,641.75. To this period the state had also issued \$2,318,000 of state bonds to railroad companies. The valuation of taxable property in 1850 was \$220,165,172, and in 1857, \$378,911,905. In the latter year the tax assessed amounted to \$1,398,349.61. The principal institutions supported wholly or in part by the state are the deaf and dumb and blind asylum at Baton Rouge, the insane asylum at Jackson, the charity hospital at New Orleans, and the Louisiana penitentiary at Baton Rouge. —In 1850, according to the U. S. census, there were in Louisiana 664 public schools, with 822 teachers and 25,046 scholars, and an annual in-

come of \$349,679; 143 academies and private schools, with 354 teachers and 5,328 scholars, and an annual income of \$193,077; and 6 colleges, with 41 professors and 629 students, and an annual income of \$85,750. The number of children attending school as returned by families was 34,057, or one to every 8.01 of the free population. The number of free persons over 20 years of age who could not read and write was 24,610, of whom 21,221 were white, and 3,389 free colored persons. In 1856 the number of public schools in the state was 749, with 17,949 scholars, and 18,472 children were attending other schools; the total school population was 73,322. The school fund in 1859 amounted to \$899,500, and the seminary fund to \$137,000; total, \$1,036,500. These are invested in the state debt. The constitution provides that "free schools shall be established throughout the state; the proceeds of lands granted for the purpose and of lands escheated to the state shall be held as a permanent fund, on which 6 per cent. interest shall be paid by the state for the support of these schools." The yearly sum of \$250,000 is now appropriated for the support of such schools, and is derived from a special tax of one mill on the dollar and a poll tax of \$1 on each white male inhabitant. The whole amount apportioned to the several parishes in 1856 was \$312,235. The principal collegiate and professional schools in the state are as follows: the university of Louisiana (with 3 departments), at New Orleans, founded in 1836; St. Charles college, at Grand Coteau, 1838; Baton Rouge college, at Baton Rouge, 1838; Franklin college, at Opelousas, 1839; the Centenary college, at Jackson, 1845; and a state seminary near Alexandria, on the plan of the Virginia military institute, organized in 1859, with 50 cadets, and capable of sustaining 200 cadets, annually. The number of churches in the state in 1850 was 307, viz.: Baptist 77, Christian 3, Episcopal 15, Free 3, German Reformed 1, Jewish 1, Methodist 125, Presbyterian 18, Roman Catholic 55, Union 6, Universalist 1, and minor sects 2. These provided accommodation for 109,615 persons, and as property were valued at \$1,782,470. The newspaper and periodical press of Louisiana in the same year consisted of 55 distinct publications, of which 11 were issued daily, 6 tri-weekly, 37 weekly, and 6 monthly; of these, 13 were literary, 6 neutral and independent, 34 political, 1 religious, and 1 scientific. The aggregate issue was 80,847 copies, or annually 12,416,224 copies. The number of libraries (not including private) was 10, of which 5 with 9,800 volumes were public, 2 with 12,000 volumes school, and 3 with 5,000 volumes college libraries. The number of paupers in the state on June 1, 1850, was 106, and the number supported wholly or in part in the year preceding had been 423; cost \$39,806. The number of convicts in prison, June 1, 1850, was 266, and the number convicted in the year preceding was 297. The convicts are chiefly employed in the manufacture of cotton and hemp.—The Span-

iards navigated the gulf of Mexico for two centuries without being aware that one of the largest rivers of the world falls into it. This fact may be explained from the circumstance that a low, flat, and dangerous coast extends on both sides of its outlet to a great distance. The French after their establishment in Canada had explored the Mississippi to the sea in 1682, but made no settlement near its mouth before 1699, when Iberville founded his first colony. The city of New Orleans was founded in 1718, about which time the colony began to assume importance; and it soon afterward acquired universal notoriety from having been granted to the company formed by John Law at Paris in 1716, and incorporated as the Mississippi company. When this scheme, called the "Mississippi bubble," burst, the country was resumed by the crown, and the commerce of the river declared free. The French remained in possession of Louisiana until 1762, when they ceded it to Spain. From neglect, and notwithstanding the great natural resources, little improvement was effected under the new rule, which was never popular. In 1800 Bonaparte, then first consul, succeeded in inducing the Spanish government to retrocede Louisiana to France. It was held for a time, but only nominally, as a French colony, and only long enough to enable Bonaparte to complete a sale of it to the United States, which he succeeded in doing in 1803 for the sum of \$15,000,000. The country comprehended in this purchase included not only the present state of Louisiana, but also all the country to the N. and W. between the Mississippi and the Pacific, excepting such portions as were then occupied by Spain, and as far north as the British territory. This vast country is now occupied by the states of Arkansas, Missouri, and Iowa, the greater part of the state of Minnesota, and the Nebraska, Kansas, and Indian territories. The American flag was first raised in New Orleans on Dec. 20, 1803. By the act of congress of March 26, 1804, the territory was divided into two governments, that of Orleans including the present state of Louisiana, and that of Louisiana all the country N. and W. of it. In 1810 the United States dispossessed Spain of a large part of West Florida, extending from the Mississippi to the Perdido, S. of the 31st parallel, and subsequently annexed that part of it W. of Pearl river to the new territory. On Feb. 11, 1811, an act of congress was passed to enable the inhabitants to form a constitution and state government; and by a subsequent act of April 8, 1812, the territory of Orleans was admitted into the Union under the title of the state of Louisiana. On June 4 of the same year the territory theretofore known as Louisiana had its designation altered to Missouri. The share that Louisiana took in the war of 1812 is familiar to all. The great battle fought at New Orleans, Jan. 8, 1815, in which the British sustained a total defeat, was the crowning event of the period, and the last hostile engagement

between the two nations. Since this time the progress of the state has been rapid. With the development of the great central valley its commerce has expanded at a wonderful rate, and become so vast as to give it rank as the second commercial state of the Union. In 1845 Louisiana framed a new constitution, which was reframed and reordained in 1852.

LOUISVILLE, a city and the capital of Jefferson co., Ky., situated at the falls of the Ohio, in lat. 38° 3' N., long. 85° 30' W., 130 m. below Cincinnati, and 53 m. W. from Frankfort; pop. in 1840, 21,210; in 1850, 43,196; in 1860, about 80,000. The city is built upon a level plain about 75 feet above low water mark. The streets are wide, well paved, straight, lighted with gas, and cross each other at right angles. Main street is about 3 miles long, and is remarkably handsome and well built. The streets in that part of the city devoted to private residences are commonly lined with ornamental shade trees. The city is abundantly supplied with water by water works. Dupont's Artesian well is one of the deepest in the world, its depth being 2,086 feet, and its bore 8 inches; the flow of water is 330,000 gallons in 24 hours, and the elevation above the surface 170 feet. The public buildings are a fine court house, erected at a cost of over \$1,000,000, a gaol, custom house, city hall, the university, 2 marine asylums, 3 orphan asylums, a house of refuge, an institution for the blind, 60 churches and 2 synagogues, 5 banks of issue and many others of deposit, 4 spacious market houses, and 12 very handsome public school edifices. There are 5 daily and 12 weekly newspapers, and 2 semi-monthly and 3 monthly magazines. There is a great number of literary, scientific, charitable, and other associations. Louisville is very extensively engaged in manufactures, the condition of which in 1860 is shown by the following table:

Manufacturing Establishments.	No.	Hands employed.	Capital.
Agricultural implements.....	5	250	\$142,000
Brass foundries.....	5	102	80,000
Carriages and wagons.....	17	174	108,000
Clothing.....	19	924	144,000
Furniture.....	12	146	128,000
Iron rolling mill.....	1	140	250,000
Machine works.....	21	988	850,000
Soap and candles.....	5	125	892,000
Tobacco and cigars.....	82	1,150	250,000
Flour.....	7	65	267,000
Tan yards.....	16	100	100,000
Lumber and planing mills.....	12	160	300,000
Blacksmiths.....	29	190	100,000
Breweries.....	14	64	150,000
Lard oil.....	5	75	100,000
Rope and sordage.....	2	170	....
Woolen and cotton mills.....	4	75	50,000
Piano-fortes.....	1	63	60,000
Paper making.....	1	90	70,000
Stove and hollow ware.....	3	275	280,000
Hydraulic machine works.....	1	180	70,000
Machine and finishing shops.....	8	30	20,000
Marble and stone works.....	15	150	80,000
Upholsterers.....	7	25	80,000
Lumber yards.....	15	60	500,000
Saddle, harness, and trunks.....	21	158	100,000

Beside the above there are 8 boat building yards.

The Louisville and New Orleans packets, which are built and mostly owned here, are noted for their speed, elegance, and safety. The chief source of the prosperity of Louisville has been its commerce. It has uninterrupted intercourse most of the year by means of the Ohio with nearly all the towns and cities of the great West, and is in direct communication by railroad with all points north, south, east, and west. The commerce of the city is estimated at over \$100,000,000 per annum, and is rapidly increasing. The exports comprise every species of western produce and manufactures; those of pork and other products of the hog exceed \$3,000,000 in value per annum. The principal imports are dry goods, groceries, hardware, and cutlery. There are 8 pork packing establishments, employing over 1,200 men and a capital of about \$2,125,000. The following table shows the number of hogs slaughtered in Louisville from 1858 to 1859:

Seasons.	No. hogs.	Bbls. pork.	Lbs. lard.
1858-'4	407,775	124,879	15,847,284
1864-'5	288,798	65,102	8,915,545
1856-'6	332,854	88,029	11,869,760
1856-'7	245,880	62,920	7,867,991
1857-'8	368,508	88,310	8,759,989
Total	1,582,550	423,240	58,260,520

The tobacco business is also carried on extensively in this city. There are three immense warehouses for storing and selling this staple, which are capable of holding 7,000 hogsheads. The aggregate sales of these houses amount to about 19,000 hogsheads annually, realizing the sum of about \$2,500,000.—The first settlement on the site of the present city was made in the spring of 1778, when a few families came to the falls under Gen. George Rogers Clark. In 1780 the legislature of Virginia passed "an act for establishing the town of Louisville at the falls of the Ohio," naming the town in honor of Louis XVI., whose troops were then aiding the Americans in their revolutionary struggle. The settlement was for several years greatly annoyed by the Indians. The town was for some 20 years very unhealthy, but it is now, perhaps, the healthiest city of its size in the world.

LOUSE. See EPIZOA, vol. vii. p. 258.

LOUTH, an E. co. of Ireland, in the province of Leinster, bounded N. by Armagh and Down, E. by the Irish sea, S. by Meath, and W. by Meath and Monaghan; area, 322 sq. m.; pop. in 1851, 107,657. The surface in the N. is rugged and mountainous, elsewhere level and undulating, and the soil generally fertile. It returns 4 members to parliament, including 2 for the boroughs of Drogheda and Dundalk.

LOUVAIN, a town of Belgium, in the province of Brabant, situated on the Dyle, 27½ m. E. by N. from Brussels; pop. in 1857, 30,765. The streets are regular, but the houses are not well built. It is celebrated for its town hall, a fine Gothic building, for its cathedral, which

is one of the most beautiful religious edifices in Belgium, and for its university, at one time celebrated among the literary institutions of Europe, and still the leading school of Roman Catholic theology in Belgium, attended by about 600 students (6,000 in the 16th century), and containing 20 colleges (formerly 48), zoological and mineralogical museums, a botanic garden, and an extensive library. Jansenius, the founder of Jansenism, was among the most celebrated professors there. St. Gertrude's church and St. Michael's are noteworthy, the former on account of its celebrated oaken stalls with detached groups, statues, and bass-reliefs, and the latter for containing many of the best paintings of modern Belgian artists. Beside the many pictures of the Flemish masters in the cathedral, Louvain possesses in the gallery belonging to M. Vandenschrieck a very valuable collection of paintings by native artists. The town transacts a considerable business in the agricultural produce and manufactures of the country. The principal trade is in beer, of which 200,000 casks are made annually. Vessels of 150 tons can reach the town through the canal of Louvain. The town, although its activity is now increasing, presents a desolate aspect, compared to former times, when it was the capital of Brabant, the residence of the dukes, and possessed a population of 100,000, mostly engaged in the manufacture of woollens. The weavers revolted against the duke of Brabant in 1483, and many of them, being banished, transplanted their industry to England.—The foundation of Louvain is attributed by some authorities to Julius Cæsar, and the old castle is still called *Château de César*, although it is known to have been built at the end of the 9th century as a defence against the Northmen. The walls of the town, built in the middle of the 12th century, now partly turned into boulevards, measure 7 m. in circumference. Edward III. of England resided for some time in the castle of Louvain, and the emperor Charles V. was brought up there. The town was unsuccessfully besieged by various powers during the 15th, 16th, and 17th centuries. Taken by the French in 1756 and 1793, it fell in 1793 into the hands of the Austrians, and was retaken by Gen. Kléber in 1794 and annexed to France, as the capital of an arrondissement of the department of Dyle. An engagement between the Dutch and Belgians took place outside of its walls in Aug. 1831, when the present king Leopold narrowly escaped being captured by his opponents.

LOUVET DE COUVRAY, JEAN BAPTISTE, a French author and revolutionist, born in Paris, June 11, 1760, died Aug. 25, 1797. During his youth he was employed in a bookseller's shop kept by one Prault, where he acquired a knowledge of literature which he employed in the service of the revolution by writing stories, of which the notorious *Aventures du chevalier de Faublas* is the best known. At this time a licentious literature, in the form of novels professing to

set forth the corruptions of aristocratic society, was all the rage. Ladies of the highest rank called without a blush at the booksellers' for works of the vilest character. *Faublas* attained among such readers an incredible success. Louvet subsequently distinguished himself by proposing a decree against the emigrant Bourbon princes and nobility, and was employed to edit *La sentinelle*, "a sort of pillory to which royalty was attached every morning and insulted." After Aug. 10, 1792, he was chosen deputy from Loiret, and assumed a more moderate position. He joined the Gironde, and attacked Robespierre in a speech which is praised as a model of clearness, reason, energy, and courage. He was proscribed with the Girondists, but escaped and remained concealed until the 8th Thermidor. He was now recalled to the convention, and was elected to the council of 500. He finally became a bookseller in the Palais Royal, and married a beauty, the noted Lodoiska. A storm of ridicule now burst on Louvet, who had himself ridiculed others so cruelly. Overwhelmed by pamphlets and insults, the man who had placarded Paris with abuse appealed to the law. He finally died neglected and obscure. His wife, who was warmly devoted to him, wished not to survive his death, but was thwarted in her attempt to poison herself. Louvet was among the most eloquent speakers of the revolution, and Mme. Roland has left a eulogium on him, which posterity, says Jules Janin, "would have acquiesced in had he only died sooner." In addition to *Faublas*, he wrote *Émilie de Valmont, ou le divorce nécessaire*; *Paris justifié*; *Récit de mes périls*; several political addresses, and 2 or 8 comedies, beside many anonymous productions.

LOUVIERS, a town of France, in the department of Eure, situated on the river of that name, about 17 m. S. from Rouen and 70 m. N. W. from Paris; pop. in 1856, 9,457. Among its principal public edifices is the cathedral, built during the crusades, and the *maison des templiers*, a Gothic building of the 13th or 14th century. It is one of the principal manufacturing towns for cloth, contains 30 manufactories and 20 spinning mills for woollen yarn, which employ nearly 6,000 persons in and around the town. The total value of various goods manufactured in the arrondissement of Louviers amounts to \$6,000,000 annually. Formerly the town was celebrated for its linen manufactures, which however were abandoned in the 16th century, and toward the end of the 17th century those of cloth were established. In ancient times Louviers was surrounded by fortifications. Philip Augustus and Richard Cœur de Lion concluded a treaty of peace there in 1196. It joined the league, and when Rouen fell into the hands of the Huguenots, its parliament assembled in Louviers.

LOUVOIS, FRANÇOIS MICHEL LE TELLIER, marquis de, a French statesman, born in Paris, Jan. 18, 1641, died there, July 16, 1691. He

was the son of Michel Le Tellier, for many years minister of war under Louis XIV., and by whose influence he was enabled upon coming of age to assume the duties of the same office. At the age of 21 he was married to Anne de Souvré, marquise de Courtanvaux, the richest heiress in France, and soon after renounced the dissipations and pleasures of the court, to which he had been greatly addicted, and, as a preparation for his future functions, examined into the condition of the army, visited the different fortified places in the kingdom, and in various ways endeavored to impress the king favorably by his industry and capacity for business. At the same time he flattered him with the idea that the most successful measures were the result of the royal suggestions, until Louis gradually began to consider the young minister as in some sort his own pupil in the art of statesmanship. By careful management Louvois was thus enabled, in spite of his haughty and overbearing disposition, which made him unpopular with both courtiers and people, to assume and retain for more than a quarter of a century so great an ascendancy in the royal councils that Mme. de Sévigné, writing about him in 1676, said: "He possesses absolute power, and armies advance or retreat at his pleasure." From 1667, about which time he assumed the sole direction of the war department, until the peace of Nimeguen in 1678, he was incessantly employed in planning and conducting campaigns, sharing sometimes with Turenne, Condé, or Luxembourg the credit of the successes which crowned the French arms, and exhibiting an energy, tact, and unscrupulousness which even his enemies were obliged to confess rendered him an apt instrument to further the ambitious projects of his master. The cruel devastation of the Palatinate during this war, which stains the military glory of Louis and Turenne, is generally supposed to have been instigated by Louvois. He showed some regard, however, for the condition of disabled soldiers, and it is mentioned to his credit that he conceived the plan of the *Hôtel des Invalides* in Paris, beside establishing hospitals and asylums in various parts of the country. The condition of the soldiers while in service was also much ameliorated, and under his administration military discipline was brought to a considerable degree of perfection, regular grades of rank were established, and the different arms of the service were first distinguished by uniforms. He also organized the departments of artillery and engineers, for which he founded schools of instruction, and managed the whole vast and complicated system over which he presided with a precision previously unknown in French history. In times of peace his plans for the aggrandizement of the kingdom were scarcely less magnificent than his achievements in war. Thanks to the abundant resources which the sagacity of Colbert had collected, and which the long war ending with the peace of Nimeguen had not wholly dissipated, Louvois was able to project the palace of Versailles, the

Place Vendôme in Paris, the great aqueducts of Maintenon, and other magnificent public works which will long be identified with his name. The death in 1688 of Colbert, who had always protected the Huguenots, having given Louvois almost absolute power, he instigated the king to persecute this class of his subjects. Finding argument of no avail to convert them, he had resort to force, and the royal dragoons are said to have waged a war of extermination upon them, whole families being sometimes ruthlessly slaughtered. Finally, in Oct. 1685, at the earnest suggestion of Louvois, the edict of Nantes was revoked, and the emigration of Huguenots which followed deprived the kingdom of upward of half a million of its most industrious and useful population. In 1688 war broke out between France and the league of continental powers headed by the prince of Orange, and the energy and capacity of Louvois became if possible more conspicuous than ever, while the number of his personal enemies daily increased. Again the Palatinate was barbarously ravaged, and the ambition of the war minister satiated at the expense of humanity. His dictatorial manner and affectation of supreme control, however, were beginning to incense the king against him; and after the siege and capture of Mons in 1691, during which he had provoked Louis by repeated contradictions, the cold and altered manner of the latter satisfied the court that the overthrow of Louvois was impending. He still however persisted in visiting the palace at Versailles; and on one occasion the king, after reproaching him with the numerous cruelties perpetrated under the royal name, but in reality planned by Louvois, was only prevented by the interposition of Mme. de Maintenon from striking his minister. Worn by incessant labors and alarmed by these slights, Louvois declined rapidly in health, and died suddenly after a stormy interview with his master, not without suspicion of poison. Louis heard without emotion of the death of the minister whose talents had so enhanced the military glory of France; and to the court, and more especially to the people, who had long groaned under the severe taxes imposed upon them by Louvois for the support of armies, the event was the occasion of rejoicing rather than of sorrow.

LOUVRE, a celebrated public building of Paris, situated in the W. part of the city, near the right bank of the Seine. It consists of the old and the new Louvre. The old Louvre forms nearly a square 576 feet long and 538 wide, enclosing a quadrangle of about 400 feet square, and containing a vast collection of sculptures, paintings, and other works of art. Its E. façade, looking toward the church of St. Germain l'Auxerrois, is a colonnade of 28 coupled Corinthian columns, and is one of the finest works of architecture of any age or country. The new Louvre, inaugurated Aug. 17, 1857, consists of two lateral piles of buildings projecting at right angles from the two parallel galleries which join the old Louvre with the Tuileries, and forming the E.

boundary of the place du Carrousel. Between the place or square called Napoleon III. and the rue Rivoli, they present on the E. side a frontage of nearly 800 feet, intersected by three sumptuous pavilions, intended to be occupied by the departments of state and of the interior, by the administration of the telegraphs, by the imperial library of the Louvre, and by a permanent exhibition of fine arts. On the other side of the square are galleries set apart for periodical exhibitions of the works of living artists. In the central part of the building, between the gallery facing the quay and that opposite the place Napoleon, is the council chamber, to be used as an assembly room for the public bodies of the empire on the opening of the legislature and on other solemn occasions, which communicates through the museum gallery with the palace of the Tuileries.—The Louvre was originally probably a hunting lodge, upon the site of which a tower was erected in 1214 by Philip Augustus to serve as a state prison and arsenal. It was enlarged and embellished by several of his successors, especially by Charles V., who placed in it the royal collection of books, which became the nucleus of the royal library, and fitted it up as a royal residence, providing it with gardens and terraces. Under Charles VI. and VII., Louis XI., Charles VIII., and Louis XII., it was converted into a fortress. During the reign of Francis I. plans for the improvement of the building were designed by Lescot, and executed chiefly under the reign of Henry II. by that artist, who was aided by Jean Goujon and Paul Ponceau. About the same period one of the galleries was built by Serlio, an architect of Bologna, and covered with a terrace under the auspices of Henry IV., who also conceived the project of uniting the Louvre with the Tuileries, which to some extent was carried out by Louis XIV., mainly through the exertions of Colbert, under whose direction a powerful impetus was given to the enlargement of the palace. From the end of the reign of that monarch, however, the works were interrupted until the middle of the 18th century, when, under the direction of M. de Marigny, the architect Gabriel was employed in finishing the three façades, which had been commenced by Claude Perrault under Colbert's administration, while the vestibule on the side of the rue Marengo was completed by Soufflot. The work was once more interrupted by the revolution, when the Louvre was declared national property, and its contents roughly handled by the populace. When the great number of works of art seized in Italy by the armies of Napoleon made it necessary to assign a proper place for their reception, the architect Raimond was selected to conduct the work; and Percier and Fontaine, who in 1803 were charged by Napoleon with its resumption, built the great staircase of the museum proper, the museums of ancient art, the staircases on the two extreme ends of the colonnade, the Egyptian museum, the chambers for

the council of state, which are now destined to receive the designs of all the various schools of art, the marine museum, and other portions of the Louvre. After the restoration the work was again brought to a standstill. The only activity displayed by the Bourbons consisted in causing the initials of Napoleon, which were inscribed in many parts of the palace, to be erased. Under the government of Louis Philippe, Thiers offered a resolution to appropriate 18,000,000 francs to the completion of the building, which was rejected; and nothing was done until after the revolution of 1848, when 2,000,000 francs were devoted by the provisional government to the repairs of the old Louvre under the direction of M. Duban, who restored the Apollo gallery. The decorations of the interior were intrusted to Delacroix and other eminent artists. The resolution passed by the provisional government in favor of the completion of the whole building was carried into effect July 25, 1852, when the foundation stone of the new Louvre was laid, which was completed in 1857 at a cost of nearly \$6,000,000. The architect Visconti conducted the work until his death, Dec. 1, 1853, when he was succeeded by M. Lefuel. The Louvre and the Tuileries, both now completed and harmonized, form almost one single palace of unparalleled splendor and magnitude, and occupy with their enclosures an area of nearly 60 acres.

LOVAT, SIMON FRASER, lord, a Scottish Jacobite, chief of the clan Fraser, born probably in Tanich, Ross-shire, about 1667, beheaded on Tower hill, London, April 9, 1747. His father, Thomas Fraser, 3d son of the 9th Lord Lovat, eventually succeeded his grand-nephew, the 11th Lord Lovat, as 12th lord. Simon Fraser was educated at the university of Aberdeen, where he had a reputation for scholarship, and about 1694 accepted a commission in a highland regiment raised by Lord Murray, on the assurance that, although ostensibly in the service of King William, it was really intended for King James, whenever the opportunity to assert his rights to the crown should occur. The duplicity and treachery thus early manifested never ceased to characterize his conduct. His father succeeded to the title in 1696, and upon his death in 1699 Simon became 13th Lord Lovat and chief of the Frasers. For several years he was engaged in a series of lawless but unsuccessful attempts to secure the estates of his cousin, the 11th lord, with whose daughter and heiress he even made a fruitless attempt to elope. He next effected a forced marriage with the dowager Lady Lovat, widow of the 11th lord, in the hope of being acknowledged the head of the house and owner of the estates. Having been outlawed for this offence, he went to France, and embraced the cause of James II., to obtain whose confidence and protection he renounced the Protestant faith and embraced that of the Roman Catholics. In 1703 he returned to Scotland as a secret emissary to stir up the highlanders in

favor of the pretender; but, his principal object still being to obtain possession of the Lovat estates, he determined as the best means of effecting this to reconcile himself with the government, and betrayed the plot in which he was engaged to the duke of Queensberry. By the confession of two of his confederates his treachery became known to the English and French courts, and upon his return to France he was subjected to a confinement of 10 years, 8 of which were passed in the castle of Angoulême, and the remainder in Saumur. The current story that in this interval he took orders, and for some years discharged the duties of a priest at the college of St. Omer, is not sufficiently substantiated. During his imprisonment the heiress of Lovat, in whose person by a decree of the court of session of 1702 vested the family honors and possessions, was married to Mackenzie, Lord Fraserdale; and the object of his ambition being thus apparently removed from his reach, Lovat determined to espouse the Hanoverian cause. In Nov. 1714, he effected his escape into England, and had the prudence to remain quiet until the insurrection under the pretender in the succeeding year, when, putting himself at the head of the Frasers, he was instrumental in driving the insurgents out of Inverness. For his loyalty on this occasion he received a full pardon from government. Fraserdale had meanwhile joined the pretender, and, the insurrection being quelled, his estates were declared forfeited, and were subsequently, by a decree of the court of session, after long litigation, conferred upon Simon Fraser, who, by cultivating friendly relations with George I. and some of the prominent aristocratic families of Scotland, secured also a portion of the property forfeited by various highland chiefs. As the head of his clan he maintained considerable state, and in the same capacity also committed many cruel and lawless acts. He discouraged education, and according to one of his contemporaries did more to revive a clannish spirit, which had greatly declined since the revolution of 1688, than any other man. For many years he remained loyal, or seemingly so; but his title and estates having been secured to him, he withdrew his affections from the house of Hanover, from which he had nothing further to expect, and as early as 1729 was known to be in treasonable communication with the exiled Stuarts. Subsequent to 1737 he was the head of an association of highland chiefs the object of which was to procure the restoration of the pretender, in whose cause he professed to have expended large sums of money. Nevertheless, when Charles Edward landed in 1745, he avoided with selfish caution committing himself in his favor until some decided success should be achieved by the Jacobites. Even after the defeat of Sir John Cope at Gladsmuir he continued to pursue the game of deception which had now become almost a second nature with him, and sent his son with the Frasers to join the pretender's standard,

while he remained at home, ostensibly on account of his great age and infirmities, but in reality to watch the progress of the rebellion, intending in the event of its failure to fasten upon his son the responsibility of the treason committed. After the battle of Culloden the evidence of his complicity became so strong, however, that he was compelled to take refuge in a remote part of the highlands, where he led a wandering life, attended by a few devoted clansmen, and "hiding in bogs and hollow trees and caverns." He was at last discovered in an island in Loch Morar, and, being too old and infirm to travel fast, was conveyed by slow stages to London, arriving there Aug. 15, 1746. In December he was impeached in the house of lords, and on March 9, 1747, his trial commenced before that tribunal. The proceedings were grossly unfair, leading questions being put by the lord high treasurer and the attorney-general, and the prisoner being obliged to conduct his own defence with but slight assistance from counsel. After a trial of 10 days, during which he gave alternate proofs of extraordinary meanness, levity, and courage, he was found guilty and sentenced to be beheaded. Upon leaving the bar he exclaimed: "My lords and gentlemen, God Almighty bless you all. I wish you an everlasting farewell, for we shall not all meet in the same place again—I am sure of that." He met his fate with a composure and intrepidity worthy of a better man, repeating on the scaffold the words: *Dulce est decorum est pro patria mori*. His portrait, etched by Hogarth in 1746, represents a man of great obesity, and a heavy, sensual face. He was twice married, and upon his 2d wife he is said to have exercised the most terrible barbarities. A volume of autobiographical memoirs by him, written originally in French, many statements in which are of questionable veracity, was published in 1797. The best account of him is contained in the "Memoirs of Lord Lovat and Duncan Forbes," by J. H. Burton (London, 1847).

LOVE FEASTS. See AGAPÆ.

LOVELACE, LADY AUGUSTA ADA. See BYRON.

LOVELACE, RICHARD, an English poet, born in Woolwich, Kent, in 1618, died in London in 1658. He was graduated M.A. at Oxford in 1636, repaired to court, and was there much admired for his amiable disposition and handsome person. He espoused the royalist cause at the outbreak of the civil war, and gradually rose to the rank of colonel in the army. On the overthrow of his party he retired to his native county, and became soon after the bearer of a petition to the long parliament in favor of the king. This roused the ire of the republicans, who consigned him to prison until he found heavy bail for his peaceable deportment. In 1646 he entered the French service, and was wounded at the siege of Dunkirk. On returning to England in 1648, he was again thrown into prison, and there remained till the king had been executed. He is said

to have died in great poverty. He was the author of two volumes of lyrics addressed to his mistress, under the name of "Lucasta." He also wrote two dramas, "The Scholar," a comedy, and "The Soldier," a tragedy, which are lost. The earliest edition of his poems appeared in 1649; the latest was published at Ohiswick in 1817-'18.

LOVER, SAMUEL, an Irish author and painter, born in Dublin in 1797. His father, a stock broker in Dublin, intended him for commerce, but the son's natural predilections frustrated this design. His début in public occurred at a dinner given to Thomas Moore in Dublin in 1818, when he sang a song, the music and words of which were his own, in honor of the poet. He now became a contributor to the magazines, and about 1820 published a volume of "Legends and Stories of Ireland" (8vo., Dublin), of which a second series appeared in 1834. Shortly after the appearance of his first work he adopted the profession of a portrait and miniature painter. In 1834 he published his "Popular Tales and Legends of the Irish Peasantry" (12mo., Dublin), and in 1839 "Songs and Ballads" (London), comprising the "Angel's Whisper," "Molly Bawn," "The Four-Leaved Shamrock," "Rory O'More," &c. Some of his brief sketches of Irish character and even his songs were subsequently expanded into elaborate fictions, such as "Handy Andy" (London, 1842), "Rory O'More," and "Treasure Trove" (1844). He is also the author of a number of successful plays, operas, and extravaganzas. In 1844 he conceived the idea of reciting and singing his own works in public, and, after a lucrative tour in the chief towns of the United Kingdom, he visited in 1846 the United States and Canada, where his entertainment proved equally successful. Returning to England in 1848, he repeated his lectures, and then retired to private life. His last work is "Metrical Tales and other Poems" (4to., London, 1859). In 1856 he received from government a pension of £100 a year.

LOW COUNTRIES. See NETHERLANDS.

LOWE, SIR HUDSON, K.C.B., a British general, governor of St. Helena during the captivity of Napoleon, born in Galway, Ireland, July 28, 1769, died in 1844. He was the son of John H. Lowe of Grantham, near Lincoln, a surgeon-general in the British army. In early childhood he went to America with his father's regiment. He was educated at Salisbury school, and was appointed an ensign in the East Devon militia at the age of 12, but did not enter the army until 1787, when he received an ensign's commission in the 50th foot, and joined his regiment at Gibraltar. Here he remained till 1791-'2, when he travelled through Italy on furlough. He took part in the expedition to Corsica under Sir David Dundas, and in the subsequent brilliant campaign of Sir Charles Stuart in that island. For nearly two years he was quartered in Ajaccio, but singularly enough never saw any of the Bonaparte family. After serving

in Elba and in Portugal, and becoming a captain, he was ordered in 1797 to Minorca, where he organized from the refugee Corsicans a corps styled the Corsican rangers, of which he was made major, and which formed part of the command of Sir John Moore in the expedition to Egypt. Major Lowe was engaged in the battles of Aboukir and Alexandria, led the advance of the army at Cairo, and received the proposals for the surrender of that city. His extreme vigilance, method, and zeal in this campaign drew from Sir John Moore the eulogium: "Lowe, when you're at the outposts I always feel sure of a good night's rest." On the evacuation of Egypt his corps was ordered to Malta, and after the peace of Amiens disbanded. In 1802 he was appointed to the 7th fusiliers, and in 1803 on his return to England was made assistant quartermaster-general. The same year he was despatched on a secret mission to Portugal to ascertain its military condition and resources, and, after returning a favorable report, was ordered back to the Mediterranean to organize another corps of Corsican rangers, of which he was appointed lieutenant-colonel. With this regiment he served with the Anglo-Russian army throughout the war in Naples and Sicily. After Sir Sidney Smith's capture of the island of Capri, Lowe was placed in command of it with a garrison of 1,300 men, composed of his own and a Maltese regiment. He retained possession of the island till 1808, when it was attacked by Gen. Lamarque with 3,000 French troops. The Maltese regiment fled at their landing after a slight resistance, and Lowe, after bravely defending the town of Capri for 12 days against a superior force, and sustaining the loss of 600 of his own men, was compelled to surrender. After aiding in the capture of Ischia and Procida in 1809, Lieut. Col. Lowe in the autumn of the same year was engaged in the British expedition against the Ionian islands, which resulted in their conquest; he framed their provisional government, and presided over their civil as well as military administration for 2 years, winning the love and friendship of the islanders, who presented him with a sword of honor at his departure in 1812 for England. Early in 1813, together with Gen. Hope, Col. Lowe was intrusted with a mission to Sweden to induce the Swedish king to coöperate with the allies, and to Russia and Prussia to concert with the sovereigns of those countries the formation of a Russo-German legion. He was present with the allies at the battle of Bautzen, and there saw for the first time the emperor Napoleon. Subsequently he was attached as a military commissioner to the allied army under Blücher, ever his warm personal friend, and was present with him in every action in which he was afterward engaged, from Möckern and Leipsic to the surrender of Paris, 18 battles, in 11 of which Napoleon commanded in person. With the allies Col. Lowe entered Paris, and remained there till the suspension of hostilities and the

abdication of the emperor, of which great events he brought the first intelligence to London, April 9, 1814. He was immediately knighted by the prince regent, and in June following created a major-general. The king of Prussia conferred on him the Prussian order of military merit, and Alexander I. decorated him with the Russian order of St. George. During this summer he was appointed quartermaster-general of the army in the Netherlands, with the duty of inspecting and reporting on the fortresses to be established on that frontier as barriers against France. He held this post when Napoleon landed from Elba, and according to strict military rule was entitled to the same appointment in the army which the English immediately collected in Flanders. But the duke of Wellington, on accepting the command of this army, made it a condition that he should select his own staff officers, and chose for his quartermaster-general Col. Sir William Howe De Lancey, whose sister, the widow of Lieut. Col. William Johnson (eldest grandson of Sir William Johnson, the superintendent of the American Indians), Sir Hudson Lowe subsequently married. In May, 1815, Lowe was appointed to the command of a British force ordered to act in concert with an Austro-Sardinian army and Lord Exmouth's fleet, in an attack upon the southern coasts of France. He left Flanders in the beginning of June, and was thus absent from the great field of Waterloo. Sir Hudson felt acutely the course of the duke of Wellington toward him; and it was owing to this fact, and as a means of soothing his feelings, that, upon the surrender of Napoleon and his banishment to St. Helena, he was selected as the governor of that island and intrusted with the charge of the great captive. Cool, firm, utterly incorruptible, and noted for his strictness in carrying out instructions, possessed of a kind heart, warm feelings, and a very high sense of honor, but with a manner rendered unattractive by reason of a natural reserve and a mien rigidly military, the British government could not have placed in this delicate and responsible position a man upon whom more implicit reliance could be placed. The appointment was opposed to Sir Hudson's inclinations, entirely unlooked for and unsolicited, and accepted with reluctance, and without a single condition or stipulation of any kind whatever. The instructions of the British government were very minute, strict, and severe, and left but little to the discretion of the governor, who carried them out with as much lenity as was possible under the circumstances, without, however, being able to escape the odium which naturally attached itself to his office. Subsequently to his return from St. Helena on the death of Napoleon in 1821, he was appointed to the government of Antigua; but family reasons prevented his accepting it, and in 1825 he was made commander of the forces in Ceylon. On his way to that island he passed through Vienna and saw Prince Metternich,

who mentioned to him a conversation with Count Bertrand, in which the count, although of all the persons at Longwood the one with whom he had been brought most into collision, acknowledged that against him personally there was no matter of complaint. In 1830 Sir Hudson Lowe was promoted to be a lieutenant-general, and he returned to England in 1831. In 1853 the "History of the Captivity of Napoleon," from his letters and journals, was published by William Forsyth.

LOWELL, the third shire town of Middlesex co., Mass., and the principal cotton manufacturing city of New England, situated on the Merrimack river, near the mouth of the Concord, 25 m. N. W. from Boston; pop. in 1850, 33,385; in 1855, 37,553; in 1860, 40,000. In rapidity of growth and prosperity Lowell has taken the lead among all the towns which the industrial enterprise of the eastern states has brought into existence during the past half century. The project of establishing a manufacturing interest at the point now occupied by Lowell was not suggested until long after a canal, now

used for distributing water power to various factories, had been built for the purpose of navigation around the Pawtucket falls in the Merrimack, which have a descent of 80 feet, by the locks and canals company, organized under a charter granted in 1792. In 1821 a tract of about 400 acres, in what is now the heart of Lowell, was purchased and laid out by several gentlemen who were subsequently incorporated as the Merrimack manufacturing company. The canal was enlarged, and a new one was constructed in 1847. The township, situated on both banks of the river, was taken from Dracut, Chelmsford, and Tewksbury, and embraces about 5 sq. m. The village of Belvidere, the most elegant portion of the town, was annexed to it after its original incorporation. The site of the city has many inequalities, but the streets are regularly laid out, and contain many elegant houses. There are two public squares; the one known as South square is large and beautifully ornamented. The following table shows the condition of the principal manufacturing establishments of Lowell:

Name of company.	Incorporated.	Capital.	Looms.	Spindles.	Operatives.	Consumed per week.		Yds. of cloth produced per week.
						Cotton, lbs.	Wool, lbs.	
Merrimack Manufacturing Company.....	1822	\$2,500,000	2,330	85,790	2,400	80,770	....	380,000
Hamilton " "	1825	1,200,000	1,289	43,519	1,250	80,000	....	285,000
Lowell " "	1828	600,000	700	13,930	520	80,000	....	150,000
Appleton Company	1828	2,000,000	454	15,066	1,300	58,000	66,000	117,000
Middlesex	1830	1,000,000	400	16,840	1,805	40,000	25,000	80,000
Suffolk Manufacturing Company	1830	800,000	800	21,936	620	40,000	....	154,000
Tremont Mills	1830	600,000	760	20,433	650	45,000	....	230,000
Lawrence Manufacturing Company	1830	1,500,000	1,852	58,624	1,600	140,000	....	360,000
Boott Cotton Mills	1835	1,300,000	1,585	54,966	1,152	90,000	....	300,000
Massachusetts Cotton Mills	1839	1,300,000	1,971	66,913	1,700	175,000	....	507,000
Total		\$18,000,000	12,284	399,064	12,507	805,770	91,000	2,463,000

Beside the total products above enumerated, consisting of 2,394,000 yards of cotton, 44,000 of wool, and 25,000 of carpeting, about 50 rugs are made per week. The Merrimack, Hamilton, Appleton, Suffolk, Tremont, Lawrence, Boott, and Massachusetts companies manufacture cotton goods; the Lowell, the same, and also carpets, rugs, and pantaloons stuffs; the Middlesex, broadcloths, doeskins, cassimeres, and shawls. The Lowell machine shop (incorporated in 1845, capital \$600,000, operatives 550) produces cotton machinery, locomotives, and the like, consuming 3,000 tons of wrought and cast iron per annum. The Lowell bleachery (incorporated in 1832, capital \$800,000, operatives 272) dyes 15,000,000 and bleaches 8,000,000 yards per annum. Of the 13,329 persons employed in all these establishments, 4,867 are males, and 8,962 females. The average weekly wages of females employed, above the cost of board, is represented to be \$2; of males, \$4.80. Each manufacturing company owns from 20 to 80 dwellings, which are leased at a nominal rent to responsible persons as boarding houses for the hands employed in the factories. Some of them are large enough to accommodate 40 or 50 inmates. None but operatives are allowed to board in them, and the sexes are kept separate. The

corporations also provide a hospital in which workpeople find attendance in sickness, for which, if they be unable to pay, the employers are responsible. Individual enterprise employs in various manufactures a capital of \$400,000, and about 1,500 persons. There are 6 banks of issue, having an aggregate capital of \$1,450,000; 3 savings banks, with deposits amounting to \$2,605,148, contributed by 12,192 depositors. There are, moreover, 2 loan and fund associations, and 3 insurance companies. Lowell has 20 churches (3 Baptist, 7 Congregational, 1 Episcopal, 1 Freewill Baptist, 3 Methodist, 3 Roman Catholic, and 2 Universalist). The Middlesex mechanics' association, having a library of 6,000 volumes, is the principal literary society of the town. A dispensary affords gratuitous medical aid to the poor. The educational system consists of one high, 8 grammar, 3 intermediate, 51 primary, and 2 free evening schools; the average actual attendance at these schools is 5,450; the whole number of scholars, 9,599. There is a city school library containing 10,000 volumes, to which access may be obtained by any citizen by the payment of a nominal annual assessment. In addition to those above named, there are several literary and benevolent associations of less importance. Of 40 newspapers which have existed

in Lowell in as many years, 4 are still continued. The city is connected with Boston by the Boston and Lowell railway, and with various points north by the Boston, Concord, and Montreal, and other lines, as well as with Lawrence, Salem, and Fitchburg by smaller lines of road. The government consists of a mayor, 8 aldermen, and 24 councilmen.

LOWELL, the name of a distinguished family of Massachusetts, descended from Percival Lowell, a merchant who emigrated from Bristol, England, in 1689, and settled in Newbury, where he died Jan. 8, 1665. I. JOHN, LL.D., an American statesman and jurist, born in Newburyport, Mass., June 17, 1743 (O. S.), died in Roxbury, Mass., May 6, 1802. He was the son of the Rev. John Lowell, the first minister of Newburyport, and was graduated at Harvard college in 1760. He studied law, was admitted to practice in 1762, represented Newburyport in the provincial assembly in 1776, and settled in Boston in 1777. He was elected to the convention which framed the constitution of Massachusetts in 1780, took a leading part in the deliberations of that body, and was a member of the committee by which the constitution was draughted and reported to the convention. He inserted in the bill of rights the clause declaring that "all men are born free and equal," for the purpose, as he avowed at the time, of abolishing slavery in Massachusetts; and after the adoption of the constitution he offered through the newspapers his services as a lawyer to any person held as a slave who desired to establish a right to freedom under that clause. The position maintained by him on this question was decided to be constitutional by the supreme court of the state in 1783, since which time slavery has had no legal existence in Massachusetts. In 1781 he was elected a member of the continental congress, and in 1782 was appointed by that body one of the 3 judges of the court for the trial of appeals from the courts of admiralty in the several states. In 1784 he was elected as one of the commissioners to establish the boundary between Massachusetts and New York. In 1789 President Washington appointed him judge of the district court of Massachusetts, and on the new organization of the U. S. courts in 1801 he was appointed by President Adams chief justice of the first circuit. He was one of the founders of the American academy, and for 18 years was a member of the corporation of Harvard college. II. JOHN, LL.D., an American lawyer and political writer, son of the preceding, born in Newburyport, Oct. 6, 1769, died in Boston, March 12, 1840. He was graduated at Harvard college in 1786, studied law, was admitted to the bar before he was 20 years of age, and rose rapidly to the highest rank in the profession. In 1803 he visited Europe, where he remained 3 years, and after his return devoted himself chiefly to politics. Though he always refused to accept office, few men of his day in Massachusetts had

so strong an influence on public opinion. After the decease of Fisher Ames in 1808, he exercised a greater ascendancy than any other person in New England over the minds of those who were opposed to the national administration. His writings in the newspapers and his pamphlets, of which he published 25, were of eminent service to the federal party by their skill and vigor. From 1810 to 1828 he was the leading member of the corporation of Harvard university. He was one of the founders of the Massachusetts general hospital, the Boston Athenæum, savings bank, and hospital life insurance company. For many years he was president of the Massachusetts agricultural society. He died suddenly of apoplexy, while reading a newspaper. "He possessed," says Edward Everett, "colloquial powers of the highest order, and a flow of unstudied eloquence never surpassed, and rarely, as with him, united with the command of an accurate, elegant, and logical pen. Next to his commanding talent and energy the great secret of his influence was his entire and unsuspected disinterestedness." III. FRANÇOIS CABOT, an American merchant, brother of the preceding, born in Newburyport, April 7, 1775, died in Boston, Sept. 2, 1817. In 1810 he visited England on account of the state of his health; and on his return home, shortly after the commencement of the war of 1812, he became so strongly convinced of the practicability of introducing the cotton manufacture into the United States that he proposed to his kinsman, P. T. Jackson, to make the experiment on an ample scale. (See JACKSON, PATRICK TRACY.) The result of his project was the establishment of manufactures at Waltham, and the foundation of the city of Lowell, which was named after himself. He visited Washington in 1816, and his personal influence with Mr. Lowndes, Mr. Calhoun, and other leading members of congress, contributed largely to the introduction into the tariff act of that year of the protective clause which gave an impetus to the cotton manufacture in the United States. IV. JOHN, jr., founder of the Lowell institute at Boston, son of the preceding, born in Boston, May 11, 1799, died in Bombay, March 4, 1836. He received his early education at the Edinburgh high school, and entered Harvard college in 1813; but after two years' study, his health being impaired, he made in 1816 and 1817 two voyages to India, the first to Batavia, returning by Holland and England, and the second to Calcutta. After his return he engaged for a few years in commerce, but in 1830-'31 his wife and two daughters, his only children, died in the course of a few months, and for the rest of his life he devoted himself to travel, of which he was passionately fond. He spent one year in traversing the United States, and then visited in succession England, Scotland, Ireland, France, Belgium, Holland, Germany, Italy, Greece, the Mediterranean islands, Asia Minor, Egypt, the countries on the upper Nile, Arabia,

and Hindostan. His main object was to penetrate the Chinese empire from the Indian frontier. But he was prostrated by disease when he reached India, and died 3 weeks after his arrival. By his will, made while in Egypt amid the ruins of Thebes, he bequeathed about \$250,000 for the maintenance in Boston of annual courses of free public lectures on religion, science, literature, and the arts. The Lowell institute, as it is called, went into operation in 1839. It is highly successful, the annual issue of tickets to the lectures averaging 25,000. During the first 7 years after the foundation of the institute the lectures delivered numbered 561. Edward Everett delivered at Boston, Dec. 31, 1839, as an introduction to the first course of lectures of the Lowell institute, a memoir of Mr. Lowell, in which he said: "The few sentences, penned with a tired hand by our fellow citizen, on the top of a palace of the Pharaohs, will do more for human improvement than, for aught that appears, was done by all of that gloomy dynasty that ever reigned. I scruple not to affirm that in the directions given by him for a course of popular instruction, illustrative of the great truths of natural religion, and the evidences of Christianity, and unfolding the stores of natural science and useful knowledge, to be dispensed without restriction to an entire community, there is a better hope that mental activity will be profitably kindled, thought put in salutary motion, the connection of truth with the uses of life traced out, and the condition of man benefited, than in all the councils, rescripts, exploits, and institutions of Sesostris and his line." V. CHARLES, D.D., an American clergyman, son of Judge John Lowell, born in Boston, Aug. 15, 1782. He received his early education at Medford and at Andover academy, was graduated at Harvard college in 1800, and began the study of law in Boston, which he soon abandoned for that of theology. In 1802 he visited Europe and studied for two years at Edinburgh, and afterward travelled on the continent, returning to the United States in 1805. On Jan. 1, 1806, he was settled as minister of the West (Congregational) church in Boston, of which he is still pastor (1860). In 1837-'40 he travelled extensively in Europe and the East. Beside many occasional discourses, he has published two volumes of sermons (Boston, 1855.) VI. MARY (Mrs. PUTNAM), an American authoress, daughter of the preceding, born in Boston, Dec. 3, 1810. She was married, April 5, 1832, to Samuel R. Putnam, a merchant of Boston. Her mother, a native of New Hampshire, descended from the Scandinavian family of Trail or Troil of the Orkney islands, celebrated in Scott's "Pirate," possessed in an eminent degree the faculty of acquiring languages. Mrs. Putnam's attainments in the same direction are extraordinary, comprising not only Latin, Greek, and Hebrew, and the modern tongues of western Europe, but Swedish, Danish, Polish, Russian, Hungarian, Turkish, San-

scrit, and several other oriental languages. She has contributed many articles to the "North American Review," and to the "Christian Examiner;" and two of her articles in the latter journal (Nov. 1850, and March, 1851), in reply to Prof. Bowen's attacks on Kosuth and the other leaders of the Hungarian revolution of 1848-'9, attracted much attention, and had a marked influence on public opinion. In 1851 Mrs. Putnam went to Europe with her husband and children, where she resided, chiefly in France and Germany, till 1857, prosecuting her studies in languages and collecting materials for a history of Hungary, upon which she has been long engaged. VII. ROBERT TRAILL SPENCER, an American author, brother of the preceding, born in Boston, Oct. 8, 1816. He was educated at Round Hill school, Northampton, and at Harvard college, where he was graduated in 1838. He studied medicine and afterward theology, and in 1842 was ordained a clergyman of the church of England by the bishop of Newfoundland and Bermuda, whom he accompanied as chaplain first to Bermuda, and then to Newfoundland, where he was settled for some years as rector of Bay Robert. During a severe famine which prevailed in the island he was appointed commissioner for distributing food, became ill through overwork and anxiety, and returned to the United States. He soon after became rector of Christ church, Newark, N. J., and is now settled over Christ church in Duaneburg, N. Y. In 1858 he published at Boston a novel of Newfoundland life and scenery, "The New Priest in Conception Bay," and in 1860 "Fresh Hearts that failed 3,000 Years Ago, and other Poems." VIII. JAMES RUSSELL, an American poet, brother of the preceding, born in Cambridge, Mass., Feb. 22, 1819. He was graduated at Harvard college in 1838, and recited a "Class Poem," which was printed in 1839, and which contained many strokes of vigorous satire and much sharp wit. He studied law in Harvard university, was admitted to the bar in 1840, and opened an office in Boston. He soon, however, abandoned the profession and devoted himself entirely to literature. In 1841 he published a volume of poems entitled "A Year's Life," which has never been reprinted, though many of the poems, revised by the maturer taste and judgment of the author, have been incorporated into the subsequent collections of his writings. In Jan. 1843, he commenced, in conjunction with Robert Carter, the publication at Boston of "The Pioneer, a Literary and Critical Magazine," which the "Cyclopædia of American Literature" says "was of too fine a cast to be successful." Three monthly numbers were issued, containing articles from Poe, Neal, Hawthorne, Parsons, Story, and others, beside the editors, when the publishers, involved in debt by other publications, failed, and the magazine was discontinued. Mr. Lowell's next publication was a volume of "Poems" (Cambridge, 1844), comprising "A Legend of Brit-

tany," "Prometheus," "Rhæcus," and numerous smaller pieces, among which were sonnets to Wendell Phillips and to J. R. Giddings, expressing decided anti-slavery sentiments. A volume of prose, entitled "Conversations on some of the Old Poets" (Cambridge, 1845), next appeared. It is a series of essays in the form of dialogues on Chaucer, Chapman, Ford, and poets and poetry in general, interspersed with remarks on politics, slavery, and other topics. A second series of his "Poems" (Cambridge, 1848) contained "The Present Crisis," "Anti-Texas," "On the Capture of certain Fugitive Slaves near Washington," and others which have obtained great popularity among the opponents of slavery. In the same year was published at Cambridge, in a thin volume, "The Vision of Sir Launfal," a poem founded upon the legend of the search for the Holy Graal, and the "Biglow Papers," a witty and humorous satire, consisting of various poems in the Yankee dialect, ostensibly by Mr. Hosea Biglow, and edited with an introduction, notes, glossary, index, and "notices of an independent press," by "Homer Wilbur, A.M., pastor of the first church in Jaalam, and prospective member of many literary, learned, and scientific societies." This satire was mainly directed against slavery and the war with Mexico in 1846-'7. It has passed through several editions in the United States, and has been twice reprinted in England. In 1848 also appeared anonymously "A Fable for the Critics," an ingenious rhymed essay upon the principal living American authors. In July, 1851, Mr. Lowell visited Europe, travelling in England, France, and Switzerland, and residing for a considerable period in Italy. He returned home in Dec. 1852. In the winter of 1854-'5 he delivered a course of 12 lectures on the British poets, which were received with applause by crowded audiences, and extensively reported in the newspapers. In Jan. 1855, on the resignation of Mr. Longfellow, he was appointed professor of modern languages and belles-lettres in Harvard college. To qualify himself more fully for the duties of the office, he went to Europe in May, 1855, and after spending a year in study, chiefly at Dresden, he returned home in Aug. 1856. Mr. Lowell has written much for the "North American Review," "Putnam's Monthly," the London "Daily News," the "National Anti-Slavery Standard," and other periodicals, and is now the editor of the "Atlantic Monthly." He is the author of the article on Dante in this cyclopædia. Several editions of his collected poems have appeared in this country, and 8 editions in England. The editor of one of the English editions, Andrew R. Scoble, says: "The tone of his compositions is singularly high-minded, vigorous, and pure. Many of his pieces impress us forcibly with the idea of great power, of imagination scattering its wealth with singular profuseness, and of a daring originality of conception. The descriptive power shown in

many of his poems is one of their most striking merits. His love of nature is genuine, his imagination is vivid, and his fancy fruitful in fine images. Some of his ideal portraits are exceedingly beautiful; for example, that of 'Irené.' No common hand could have drawn those gentle lineaments, and laid on those softly tinted colors. It shows a power of discerning and describing the retiring graces and reserved charms of womanhood not often found in a masculine intellect; and an appreciation of and reverence for the higher excellences of the female character which do honor to his moral sense and purity of taste." IX. MARIA (WHITE), an American poet, wife of the preceding, born in Watertown, Mass., July 8, 1821, died in Cambridge, Oct. 27, 1858. Her marriage with Mr. Lowell took place in 1844. She was singularly beautiful in person and character, and highly accomplished in languages and general literature. A volume of her poems, which are characterized chiefly by exquisite tenderness and simple delicacy, was privately printed in Cambridge in 1855.

LOWER EMPIRE. See BYZANTINE EMPIRE.

LOWNDES. I. A S. co. of Ga., bordering on Fla., and watered by the Withlacoochee and its branches; area, about 1,050 sq. m.; pop. in 1859, 4,140, of whom 1,948 were slaves. The surface is level, and the soil productive. In 1850 (since which its limits have been reduced) the productions were 233,569 bushels of Indian corn, 80,776 of sweet potatoes, 69,300 lbs. of rice, and 2,912 bales of cotton. There were 9 grist mills, 1 saw mill, 23 churches, and 509 pupils attending public schools. Capital, Troupville. II. A central co. of Ala., bordered on the N. by the Alabama river, and watered by its branches; area, 910 sq. m.; pop. in 1850, 21,915, of whom 14,649 were slaves. The surface is undulating, and the soil fertile. The productions in 1850 were 933,287 bushels of Indian corn, 163,505 of sweet potatoes, 161,155 lbs. of rice, and 23,872 bales of cotton. There were 36 churches, and 466 pupils attending schools. Capital, Haynesville. III. An E. co. of Miss., bordering on Ala., and intersected by the Tombigbee river; area, 569 sq. m.; pop. in 1850, 19,554, of whom 12,998 were slaves. The surface is undulating, and the soil a dark and very fertile loam. The productions in 1850 were 871,864 bushels of Indian corn, 98,418 of sweet potatoes, 5,850 lbs. of rice, and 15,127 bales of cotton. There were 17 grist mills, 9 saw mills, 4 tanneries, 24 churches, and 1,110 pupils attending schools. Capital, Columbus.

LOWNDES, RAWLINS, an American lawyer and statesman, born in the British West Indies in 1722, died in Charleston, S. C., Aug. 24, 1800. His parents settled when he was very young in Charleston, where he received his education, adopted the legal profession, and practised with great success. In 1766 he was appointed by the crown associate judge. Within 3 months he delivered the opinion of the majority of the court, but contrary to that

of the chief justice, in favor of the legality of public proceedings without the employment of stamped paper. This able and elaborate opinion illustrates the paramount necessity which legitimated the revolution, waives all consideration of the stamp act as a constitutional measure, and only argues from the common law with reference to the necessities of the case. In 1768 he moved a resolution in the assembly of South Carolina for the erection of a statue of William Pitt, in acknowledgment of that statesman's services to the colonies and the British constitution. The measure was carried, and the statue still remains in Charleston. In 1775 he was elected a member of the council of safety, and of the committee appointed under it. In 1776 he was one of a committee of 11 appointed to draft a constitution for the province, and subsequently a member of the legislative council created by the constitution. In 1778 he was elected president of the province, and gave his official assent to the new constitution. Savannah was soon captured by the British forces, Georgia succumbed, and South Carolina was threatened. Mr. Lowndes addressed himself with energy to the preparations for the enemy, but, having fewer than 10,000 men in the field, was unable to resist overwhelming forces by sea and land. Charleston soon shared the fate of Savannah, and he remained for some time a prisoner. He was subsequently a member of the assembly of South Carolina, when the federal constitution was submitted to the states for adoption. He strenuously opposed it, objecting to the restriction which it imposed upon the slave trade, which he declared to be the great source of the strength and prosperity of the South; to the clause giving power to congress to regulate commerce; and to the centralization of power which would accrue to the federal government from the general effect of the constitution, protesting that it would reduce the states to the condition of mere corporations, and give a dangerous dominance to the North. The earnestness of his opposition appears from the closing sentence of one of his speeches: "I wish for no other epitaph than this: 'Here lies one who opposed the federal constitution, holding it to be fatal to the liberties of his country.'" At the close of the debate the resolution was carried against him by only a single vote.—WILLIAM JONES, son of the preceding, an American statesman, born in Charleston, S. C., Feb. 7, 1782, died at sea, Nov. 22, 1822. From his 7th till his 10th year he was educated in England. Returning to Charleston, he completed his preparatory studies under Dr. Gallagher, a Roman Catholic priest, was graduated at Charleston college, entered the law office of Chancellor De Saussure, and was admitted to the bar in 1804, having previously married Elizabeth, daughter of Gen. Thomas Pinckney. He soon abandoned his profession to attend to his plantation. In 1806 he was elected to the house of representatives in the general assem-

bly of South Carolina, in which office he served till in 1810 he was elected to the lower house of congress, where he continued till 1822, when his declining health compelled his resignation. He co-operated with the republican party of his time without being a partisan; was an urgent supporter of the war of 1812; reviewed the conduct of Jackson in the Seminole war; and spoke frequently on matters pertaining to the army, the navy, the finances, the national bank, the Missouri compromise, the Spanish treaty, and the tariff. He was chairman of the committee on ways and means from 1818 to 1822. His friends regarded him as the most proper person for the highest dignity in the country. The summer of 1820 he passed in Europe; that of 1821 in the low country of South Carolina, where he contracted the malarious disease of the climate, which impaired his constitution. His physicians prescribed a voyage to Europe, and he died on the passage.

LOWTH, WILLIAM, an English clergyman and author, born in London in 1661, died in Buriton, Hampshire, in 1782. He was graduated at Oxford in 1688, where he distinguished himself by his attainments as a biblical scholar. After leaving the university he became chaplain to Dr. Mew, bishop of Winchester, who in 1696 conferred on him a prebend in his own cathedral, and in 1699 presented him to the living of Buriton, which he retained till his death. He contributed many valuable notes to Potter's "Clemens Alexandrinus," Hudson's "Josephus," and Reading's "Ecclesiastical Historians." The principal of his own works are: "A Vindication of the Divine Authority and Inspiration of the Old and New Testaments" (Oxford, 1692); "Directions for the Profitable Reading of the Holy Scriptures" (London, 1708); and "Commentaries on the Prophets" (1725).—ROBERT, D.D., son of the preceding, born in Buriton, Nov. 28, 1710, died in Fulham, near London, Nov. 8, 1787. He was graduated at New college, Oxford, in 1737, and in 1741 succeeded Mr. Spence as professor of poetry there, in which capacity he delivered a course of lectures on the "Sacred Poetry of the Hebrews." In 1744 Bishop Hoadley presented him to the living of Ovington, Hampshire. In 1748-'9 he travelled on the continent with Mr. Legge, afterward chancellor of the exchequer, and Lords George and Frederic Cavendish, brothers of the duke of Devonshire. In 1750 he was made archdeacon of Winchester, and in 1753 rector of East Woodhay in Hampshire, and in 1755 he accompanied the duke of Devonshire, lord lieutenant, to Ireland as chaplain. He was nominated by his patron to the see of Limerick, but declined it for the prebend of Durham and rectory of Sedgfield. In 1766 he was raised to the bishopric of St. David's. He was translated to Oxford in the same year, and to London in 1777. On the death of Archbishop Cornwallis in 1783, George III. offered Dr. Lowth the primacy of Canterbury, but in consequence of infirm

health he declined it. His most important works are: *Prælectiones de Sacra Poesi Hebræorum* (Oxford, 1758); "Life of William of Wykeham" (1758; 2d ed., 1759); "English Grammar" (1762); and a metrical "Translation of Isaiah" (1778), which is his greatest production. The 18th edition of this version appeared in London in 1842.

LOXA. See LOJA.

LOYD, LEWIS, a London banker, born Jan. 1, 1768, died at Overstone park, Northamptonshire, May 13, 1858. He was the eldest son of Mr. William Loyd, and in the early part of his life officiated as pastor of a small dissenting chapel at Manchester. Having married in 1798 the only daughter of Mr. John Jones, a wealthy merchant of that city, he entered into partnership with his father-in-law, and afterward established a branch house in London, under the firm of Jones, Loyd, and co., which has since become one of the leading banking establishments of England. Its prosperity is chiefly due to the energy, industry, and intelligence of Mr. Loyd, who was for a long time a ruling spirit of the financial world of London. By his first wife he left an only son and heir, Samuel Jones Loyd, who was raised in 1850 to the peerage under the title of Baron Overstone.

LOYOLA, SAINT IGNATIUS DE, founder of the society of Jesus, born at the castle of Loyola, near Azcoytia, Guipuzcoa, Spain, in 1491, died in Rome, July 31, 1556. His true name was Don Inigo Lopez de Recalde de Loyola. He was the youngest of 11 children born to Don Bertram, lord of Oñez and Loyola, and Doña Maria Saez de Balde his wife. At the age of 14 he was sent to the court of Ferdinand and Isabella as page to the king, whom he accompanied in his wars against the Portuguese, the Navarrais, the French, and the Moors, displaying a valor and capacity which soon raised him to the height of reputation. His gallantry and courtly bearing were equal to his bravery, and the young soldier seemed destined for a brilliant position in the world when a wound in the leg, received while heroically defending the city of Pampeluna against the French in 1521, left him a prisoner and a cripple. The reading of certain lives of the saints during his long convalescence turned his thoughts toward a religious life. As soon as his health was restored, having regained his liberty, he made a pilgrimage to the famous monastery of Montserrat near Barcelona, changed clothes with a beggar, and concealing his name and rank passed 10 months at the little village of Manresa, part of the time in the solitude of a cave, and part engaged in the most loathsome offices at a hospital. Long fasts, scourgings, and other self-imposed penances frequently brought him near to death. Early in 1528 he set out on a pilgrimage to Jerusalem, journeying much of the way on foot, and depending upon the charity of chance passers for his daily food. He visited the holy places, and the next year saw him at Barcelona

in a public school, striving with infinite labor to master the Latin grammar at the age of 33. He had already formed the design of collecting a body of companions to labor in some way for the good of religion, and when in 1526 he went from Barcelona to the university of Alcalá he was followed by a few friends bent upon imitating his mode of life. They wore a plain gray habit; they lived by begging; and whatever time they could spare from study was spent in exhortation and attendance at the hospitals. The preachings of Luther and the doctrines of the Alombrados about this time had filled Spain with alarm alike at religious novelties and at all secret gatherings. Ignatius was cast into prison, and though his trial, as one of his biographers relates, "appeared more likely to lead to his canonization than to his condemnation as a criminal," he was forbidden to preach and ordered to put off his peculiar garb. At Salamanca, whither he then removed, he was treated with still more severity, but finally dismissed with honor, though with such restrictions upon his freedom to preach that he resolved to go to France, and arrived in Paris in Feb. 1528. His companions had one by one forsaken him, but here at the university he found new friends who were to be the earliest members of the society of Jesus. The first was a young ecclesiastic, Pierre Le-febvre, or Peter Faber; the second, Francis Xavier. James Laynez, Alphonso Salmeron, Nicholas Bobadilla, and Simon Rodriguez joined him soon afterward. In July, 1534, he assembled these 6 disciples, and laid before them his plan for founding a new missionary order, to labor especially in Palestine. The proposal was received with enthusiasm. It was resolved that the associates should remain in Paris until all had completed their studies, and if within a year after that time no opportunity occurred of reaching the Holy Land, they should offer their services to the pope. On the feast of the Assumption (Aug. 15) they took their vows at the chapel of Our Lady of Montmartre, near Paris, adding to the usual obligations of poverty and chastity two others, of visiting the Holy Land and obedience to the pope. They continued to live apart from one another, but followed a certain rule of life which Ignatius marked out for them. They were accused of heresy, but an examination by the inquisition resulted in their triumphant acquittal. Soon afterward Ignatius was induced by failing health to revisit his native province, where his humility was severely wounded by the anxiety of the people to do him the honor proper to a saint. He preferred to employ himself in the hospitals, to live by alms, to sleep upon a bare board, and to preach to the multitude; and the entreaties of his relatives could only induce him to enter his paternal castle for one night. After passing through some other parts of Spain he took ship at Valencia, landed at Genoa, and journeyed on foot to Venice, where he arrived toward the close of 1535. In

Jan. 1587, he was joined by his associates, now increased to 9 in number, and after a few months of labor in the hospitals the whole party with the exception of Ignatius went to Rome, received the pope's blessing on their undertaking, and then returned to Venice with permission for all of their number who were not already priests to be raised at once to that order. Ignatius however deferred his own ordination until Christmas day, 1588. In the mean time the prescribed period of a year had elapsed, and the continuance of war between the emperor and the sultan was still an insuperable obstacle to their intended voyage to Palestine. Ignatius assembled his disciples, and having prescribed for them a rule of life, and given them the name by which they have ever since been known, set out with two companions for Rome, and unfolded his plans to Pope Paul III. After much difficulty a bull for the establishment of the new order was granted, Sept. 27, 1540. In the following spring a meeting of the members was held at Rome, and Ignatius was unanimously chosen general. Immediately afterward they made their solemn religious profession at a church outside the walls, and Ignatius, having fixed his residence at Rome, then applied himself to the final elaboration of the constitution, of which as yet only a sketch had been drawn up. His subsequent history is that of his order. Beside the common labors of benevolence in which he had been so long engaged, he founded at Rome a number of charitable institutions, among which were a house for Jewish catechumens, a college for German youth, an asylum for penitent women and poor girls who were exposed to great temptation, and a founding hospital. For many years his life had been a perpetual sickness, and for some time previous to his death he was able to take little share in the details of government. At the repeated request of his companions he left in writing an account of his early life and conversion. He died alone in his room, and after a long interregnum was succeeded in the generalship of the order by James Laynez.—Ignatius was of middling stature, majestic air, and noble countenance, but slightly lame owing to his wound at Pampeluna. He is often described as a fiery enthusiast, but nothing could be further from the truth. Though by nature of an ardent temperament, his actions were so entirely under his control that during his life he was commonly thought cold and phlegmatic. His outward bearing gave no sign of the religious zeal which burned in his heart. Obedience, humility, and a resignation amounting to indifference, were among the virtues which he most loved to inculcate. He was content, so long as he had not the interests of his disciples to consult, to pass for a fool and a madman; he imitated the speech and manners of the beggars whom he served in the hospitals; he was never so well pleased as when loaded with insults; he avoided all places where he might

be recognized as a nobleman or honored as a saint; but he lost no opportunity of freeing his character from such aspersions as could affect the prosperity of his order. His early military education had impressed upon his character a firmness and generosity of temper which he always retained. Hence he constituted his order somewhat according to military rules, but in his personal intercourse with his disciples he displayed a paternal tenderness, and in governing and framing rules for the society he showed a prudence which has never ceased to excite the admiration of those who have least sympathy with his principles. The best monument of Ignatius, if we except the society of Jesus itself, is the book of "Spiritual Exercises" which he composed in his solitude at Manresa. It comprises a series of meditations for the use not only of religious but of persons in the world. The "Exercises" may be said to lie at the foundation of the order. The vocation of every novice is tested by them; the first members performed them; and they were the ground of many of the persecutions to which their author was subjected. "The object which he proposed and attained," says Bartoli, "was to reduce the cure of the soul to an art, by basing upon certain principles of faith an exact and perfect method, which, practised by the application of the means prescribed by him, is almost infallibly successful." The book of exercises has been translated into Latin, French, and English, and often reprinted. Ignatius was beatified by Pope Paul V. in 1607, and canonized by Gregory XV. in 1622. His festival is kept on July 31. Among the numerous biographies of him are those of Ribadeneira, *Vida de S. Ignacio* (Madrid, 1570); Maffei, *De Vita et Moribus S. Ignatii Loyola* (Rome, 1584); Gretser, *Apoloogia pro Vita S. Ignatii* (3 vols. 8vo., Ingolstadt, 1599, 1601, 1604); Michael Walpole, "Life of St. Ignatius" (St. Omer, 1617); Bartoli, *De Vita S. Ignatii* (fol., Rome, 1650; English translation, 2 vols. 12mo., New York, 1855); Bouhours, *Vie de S. Ignace* (Paris, 1679); Genelli, *Leben des heiligen Ignatius von Loyola* (8vo., Innsbruck, 1848).

LOZERE, a S. department of France, in the old province of Languedoc, bounded by the departments of Cantal, Haute-Loire, Ardèche, Gard, and Aveyron; area, 1,965 sq. m.; pop. in 1856, 140,819. Its surface is mountainous, being traversed by various chains and spurs of the Cévennes, the principal of which are the plateau of the Palais du Roi, 5,077 feet high, the Margeride, 4,982 feet, and the Lozère, (from which the department derives its name), 4,887 feet. The chains divide the department into 3 districts. The soil is poor, and the climate severe. Three considerable rivers, the Allier, Lot, and Tarn, have their sources in the mountains of this department. Manufactures and trade are of little importance. Lead, iron, antimony, and other minerals are mined, and sheep extensively reared. Capital, Mende.

LUBBOCK, SIR JOHN WILLIAM, an English

astronomer, born in London, March 26, 1808. He was graduated at Trinity college, Cambridge, in 1825. His life has been devoted to scientific labors, and he is the author of numerous papers in the "Memoirs of the Royal Astronomical Society," and in the "Philosophical Transactions of the Royal Society." Of the latter body he was for 12 years treasurer and vice-president. Of these papers, an important series on the planetary and lunar theory have been published as a separate work under the title, "On the Theory of the Moon and on the Perturbations of the Planets" (8vo., 1833; 2d ed. enlarged, 1834-'6). Between 1831 and 1837 he contributed to the "Philosophical Transactions" a number of papers on the tides in the ports of London and Liverpool, for which the royal society bestowed upon him their medal on physics. He also edited the maps of the stars published by the society for the diffusion of useful knowledge, and has published "Computation of Eclipses," and "Classification of the different Branches of Human Knowledge," of which 2 editions have appeared, beside other writings.

LÜBECK, one of the 4 free cities of Germany, situated in lat. 53° 51' N., long. 10° 50' E., on a ridge between the rivers Trave and Wakenitz, 29 m. by railway N. E. from Hamburg, and 145 m. N. W. from Berlin; area of the city and its territory, 110 sq. m.; pop. of Lübeck proper and its suburbs in 1858, 30,715; of 52 villages and 82 hamlets scattered around in neighboring principalities, 12,508; of the bailiwick of Bergedorf, part of the Vierlanden district, which the city holds in common with Hamburg, 12,198; total, 55,421. The city has a cathedral remarkable for its wood carvings and paintings by Memling, and the church of St. Mary, one of the finest pointed Gothic edifices in N. Germany, containing pictures by Holbein, Vandyke, and other great masters. Conspicuous among the other public buildings is the shipowners' guild, and particularly the town hall or *Rathhaus*, with the famous ancient hall of the Hansa, in which the deputies from 85 cities used to meet, and in the lower story of which the senate still assembles. The Holstein and Burg gates are also objects of architectural interest, as well as the hospital of the Holy Ghost, which is the principal of the many charitable institutions of the city. The chief educational establishment is the gymnasium. The size of the ramparts, now converted into public walks, and the quaint architecture and rich decoration of many of the houses, bear witness to the former importance and prosperity of the city, which it retains to some degree, the supreme court of all the free cities of Germany being still held at Lübeck, and its commerce continuing to be of magnitude, notwithstanding the proximity to and the competition of Hamburg and Bremen. Still it has considerably declined compared with the times when the Hanse towns monopolized the traffic of Europe. The registered shipping comprised in

1858 nearly 70 sailing and steam vessels; in the foreign trade there were 940 entrances and 959 clearances, and in the coasting trade 500 vessels. One third of the imports come by land and river from Hamburg; the remainder by sea, even large vessels, which formerly had to discharge at Travemünde, being, through recent enlargements of the port, now able to come to the city. The chief imports are cotton, silk goods, hardware, and other manufactures, colonial articles, dye stuffs, zinc, &c. The exports consist mainly of corn, cattle, wool, timber, iron, and fish. The principal manufactures are tobacco, soap, paper, playing cards, linen and cotton goods, and iron. Lübeck possesses an exchange, a commercial school, and many large insurance companies, the fire insurance company annually insuring property to the amount of 25,000,000 marks. Many business transactions are carried on with Russia and Scandinavia, large steamers plying between Lübeck and Copenhagen, Stockholm, and St. Petersburg. Lübeck has a republican form of government, administered by a senate of 20 life members, and by 120 delegates elected for 6 years. The expenditures and receipts in 1859 were respectively about 1,100,000 marks; the public debt amounts to about 12,000,000, including a new railway loan of 8,000,000. The decimal system of currency has been in operation since 1857.—Lübeck was founded, near the site of a more ancient Slavic town of the same name which had been destroyed, in the first half of the 12th century, by Adolphus II., count of Holstein, and ceded by him in 1158 to Henry the Lion, who greatly increased the prosperity of the city, and gave it the celebrated code of laws known as *Das Lübsche Recht*. The emperor Frederic II. conferred upon it in 1226 the privileges of an imperial free city. After that time, and especially after joining the Hanseatic league, Lübeck became a place of great commercial magnitude and political importance as the capital of the Hanse towns, and from the great enterprise of its citizens. During the 30 years' war it lost its prestige, and during the wars of Napoleon it was subjected to many vicissitudes, from which it has since greatly recovered.

LUBLIN, a government of Russian Poland, bounded N. and E. by the Bug, S. by Austrian Galicia, and W. by the Vistula; area about 12,000 sq. m.; pop. about 1,000,000. The interior is traversed by the Wieprz, which flows into the Vistula near Pulawy. The surface is level, and the soil fertile.—LUBLIN, the capital, is situated on the Bistrzyca, an affluent of the Wieprz; pop. 16,000, a large part of whom are Jews. It is divided into the old and new towns, and has numerous public buildings and churches. It is the most important commercial town of the kingdom after Warsaw, and has also some woollen and linen manufactures.

LUBRICANT (Lat. *lubricus*, slippery), a substance usually of an oily nature, applied to

machinery in order to facilitate its movements and protect it from wear. Beside oils and grease, tar is used for wheels of carriages, and pulverized soapstone for the journals of heavy wheels. Graphite also is applied to the same use, for which it is adapted, forming a hard smooth surface like that of polished metal. In large manufacturing establishments the selection of proper lubricants is always a matter of especial care. The chief requisites are sufficient body, so that the material shall not be thrown out by the movement of the machinery, and at the same time permanent fluidity while the material is in contact with metallic surfaces, and exposed to the air. Some oils soon become gummy, and then retard the movements they are intended to facilitate. In a mill running 50,000 spindles at the rate of 4,000 or 5,000 revolutions in a minute, a slight increase of viscosity in the oil used as a lubricant is immediately felt in a demand for additional power to keep up the motion. Even the greater fluidity given to the oil by the increased temperature caused by lighting the gas at night makes a difference of several horse-powers in the duty of an engine of a large establishment. For delicate works designed to keep in motion it may be several years, as of watches, oils are especially prepared by processes often kept secret, and the preparations are sold to the watchmakers at very high prices. For larger machines sperm oil is the lubricant commonly esteemed the best, and in England the oil of rape seed is extensively used. Most other oils become more or less gummy, or have too little body. The latter is the defect of coal oils; but although these cannot be used alone, the heavier portions after the lighter have been distilled off answer an excellent purpose mixed with lard oil, sometimes in the proportion of 50 per cent., and are thus largely employed at the West. The lighter portions stand at about 40° of Baumé's scale, and the heavier from 23° to 25°. An oil is prepared at Hammondsville, Jefferson co., Ohio, from bituminous coal, which is unusually heavy, standing at 12° B., equivalent to a specific gravity of .99. It is not adapted for illuminating purposes, but is found to be a good lubricant for car wheel axles. The heavier kinds of natural coal oils promise well as lubricants; in common with the other oils of this class, they have the property of dissolving the gum produced by other oils, and hence are advantageously mixed with them.—The relative qualities of lubricating oils are tested by a method proposed by Mr. Nasmyth. A plate of iron 6 feet long, provided with a number of longitudinal grooves of equal size, is placed so that one end is an inch higher than the other. An equal sample of each of the oils to be compared is poured at the same time into the upper end of each of these grooves, and they are left to flow toward the lower end. Some oils, which for the first 2 or 3 days appear to be most fluid, and make the furthest progress, begin to coagulate, and are passed by

the better oils, some of which continue the race 8 or 10 days. In the trials made by Mr. Nasmyth, linseed oil flowed freely for one day, but stopped in the space of 18 inches. The best sperm oil flowed most freely for 2 days, but the 3d day was passed by common sperm oil, which on the 9th day reached within 2 inches of the foot of the plane, the best sperm having stopped on the 7th day at 4 feet 6½ inches. M. W. Artus, noticing the tendency of oils to gradually decompose and oxidize the metals they come in contact with, was led to try for watch work and other metallic apparatus mixtures of the hydrocarbons, extracted by the distillation of mineral coal. To deprive them of their disagreeable odor, he caused them to be purified by agitating them with a saturated solution of hypochlorite of soda, and then leaving them for some time to repose. The oil that swims upon the surface being removed, they are agitated anew with lime water. When clear they are decanted, then mixed with a concentrated solution of soda in the proportion of ¼, and then are rectified. The success of the trials induced the publication of the process for the benefit of those requiring this lubricant.

LUCIA GIORDANO. See GIORDANO.

LUCAN, GEORGE CHARLES BINGHAM, earl of, a British general, born in London, April 16, 1800. His mother, before her marriage with his father Richard, 2d earl of Lucan, had been the wife of Bernard Edward Howard, afterward duke of Norfolk, from whom she was divorced by act of parliament in 1794. He was educated at Westminster, and entered the army in 1816. In 1828 he joined the Russian general Diebitsch as a volunteer in the campaign against Turkey, after which the order of the knights of St. Anne (2d class) was conferred upon him by the czar Nicholas. In 1829 he proceeded with Diebitsch across the Balkan, as commander of a division of the Russian cavalry, which he brought back in good order before the walls of Adrianople, where a treaty of peace with the Turks was concluded, Sept. 14, 1829. He then returned to England, and retired from the army on half pay in 1836. In 1839 he succeeded to his title and property, the great bulk of which is in the county of Mayo, Ireland, beside a large estate between Staines and Chertsey, in Surrey, England. He devoted himself to the improvement of his Irish property, and rescued within a short time nearly 30,000 acres from a tenantry steeped in misery, but the summary ejection of whom subjected him to great odium, and was much commented upon in the London "Times" and other newspapers. The duke of Wellington had great regard for his judgment on cavalry matters; and although he had previous to this time not taken a prominent position in the army, on the outbreak of the war of 1854 he was appointed commander of the cavalry in the Crimea, with the rank of lieutenant-general, his brother-in-law, the earl of Cardigan, being commander of the light brigade

of cavalry. He was wounded before Sebastopol, but his name is most conspicuously associated with the celebrated cavalry charge at Balaklava (Oct. 25, 1854), the order for which was transmitted from Lord Raglan through Lord Lucan to Lord Cardigan. He was created in 1856 commander of the French legion of honor for his services in the Crimea; but his conduct, together with that of Cardigan, was made the subject of an investigation by the Crimean board of inquiry, which however did not result in any incrimination of either of them. Among other strictures on the Crimean report, was one published by the London "Daily News," July 26, 1856, in which the two earls were handled with great severity; in that article it was said that "the Lucan-Cardigan scandal still remains undiminished in real gravity," and that "the first duty of the commander-in-chief now is to introduce into the service a deeper sense of responsibility, a more earnest sense of duty, than the truculent insubordination of the two white-washed peers." This led to an action for libel brought by Lucan against the proprietors of that journal, but on the trial (Dec. 5, 1856) the verdict was given for the defendants. The earl of Lucan is a member of the house of lords as a representative peer of Ireland, and is a conservative in politics.

LUCAN (MARCUS ANNÆUS LUCANUS), a Roman poet, born in Corduba (Cordova) in Spain, A. D. 39, died in 65. His father was of equestrian rank, a brother of the philosopher Seneca, and carried his son at an early age to Rome, where he was educated under the best masters. His talents were soon generally noticed, and his public recitations were so much admired that he was forbidden by Nero to continue them. This prohibition caused him to engage in the conspiracy of Piso, in which he was betrayed. An offer of pardon induced him after some hesitation to turn informer; but after denouncing his accomplices, among whom was his mother Acilia, his own death was ordered by the emperor. Finding escape hopeless, he caused his veins to be opened, and died while repeating some of his own verses descriptive of this mode of death. His only extant production is the heroic poem *Pharsalia*, in 10 books, the subject of which is the struggle between Cæsar and Pompey, which was decided by the battle of that name. The 10th book is incomplete, the narrative terminating abruptly. The different spirit pervading different parts, changing from flatteries of Nero to fierce invectives against tyranny, proves that it was composed at intervals. It reveals much poetical power, but has great defects, and has often been both admired and condemned with exaggeration. The best edition is that of Weber (Leipzig, 1821-'81). The principal English translations are by Christopher Marlowe (of the first book, 1600), May (1627), Rowe (1718), and Riley, in "Bohn's Classical Library" (1858).

LUCANIA, in ancient geography, a division of southern Italy or Magna Græcia, bounded

N. W. by Campania, from which it was partly separated by the river Silarus (now Selo), N. by Samnium, N. E. by Apulia, from which it was separated by the Bradanus (Bradano), E. by the Tarentine gulf, S. by Bruttium, and W. by the Tyrrhenian sea. The territory is now entirely included in the kingdom of Naples. It is mountainous, excepting a fertile and extensive plain between the Apennines and the gulf of Taranto. Beside the rivers above mentioned, it was watered by the Tanager (Negro), an affluent of the Silarus, the Laus (Lao), which falls into the Tyrrhenian sea on the confines of Bruttium, the Siris (Sinno) and the Sybaris (Cosile), which flow into the Tarentine gulf, near the towns of the same names, and other numerous streams. Among the principal towns, though flourishing at various periods, were Metapontum, Heraclea, Sybaris, and Thurium or Thuri on the eastern coast, Posidonium or Pæstum and Elea or Velia on the western, and Pandosia and Potentia in the interior. The original inhabitants of Lucania were the Chones and Enotrians, who, like most of the Greeks who settled on the coasts, were gradually subdued by Samnites from the N., who in their turn were subdued by the Romans in the earlier part of the 3d century B. C. Lucania toward the close of the same century became a principal seat of the 2d Punic war, which for ever destroyed its former prosperity.

LUCAS. I. A N. W. co. of Ohio, bordering on Mich. and Lake Erie, bounded partly on the S. by the Maumee river, and drained by the Ottawa and Swan creek; area, 420 sq. m.; pop. in 1850, 12,363. It has a level surface and fertile soil. The productions in 1850 were 51,914 bushels of wheat, 118,947 of Indian corn, 37,427 of oats, and 20,321 lbs. of wool. There were 7 flouring mills, 10 saw mills, 4 iron foundries, 2 woollen factories, 3 tanneries, 13 churches, and 5,122 pupils attending public schools. Capital, Maumee City. II. A S. co. of Iowa, drained by branches of the Chariton and Des Moines rivers; area, 432 sq. m.; pop. in 1859, 5,287. The surface is rolling, with prairies and forests, and the soil generally fertile. The productions in 1859 were 5,379 bushels of wheat, 191,208 of Indian corn, 5,587 of potatoes, 6,591 tons of hay, and 3,019 galls. of molasses from sorghum. Capital, Polk.

LUCAS, FREDERIC, an English journalist, born in London, March 30, 1812, died in Staines, Middlesex, Oct. 23, 1855. His family on both sides belonged to the society of Friends. His education was commenced at a school kept by a member of that society at Darlington, and continued at the London university, where he remained 8 years. He then entered the chambers of a conveyancer, and kept his terms at the Middle Temple. In 1835 he began the practice of law, in which he had good success. Four years later he entered the Roman Catholic church, and published a pamphlet entitled "Reasons for becoming a Roman Catholic," addressed to the society of Friends. It is a

very clear and vigorous exposition of the motives which induced him to take so important a step. He founded at London the "Tablet," a newspaper since widely known as an advocate and exponent of Catholic views, and contributed to the "Dublin Review." In 1849 he transferred the "Tablet" to Dublin, and in 1852 was returned to parliament by the county of Meath.

LUCCA, an Italian territory, successively an independent republic, duchy, and province of Tuscany, and since March, 1860, forming part of Sardinia, bounded N. by Modena, E. and S. by Tuscany, and W. by the Mediterranean; area in 1854, 512 sq. m.; pop. 261,000. It is divided into the mountainous districts among the Apennines, including the valley of the Lina; the valley of the Serchio, comprising the fine and highly cultivated plain of Lucca; and the flats near the sea, in part marshy, but producing good pasture.—LUCCA, the chief city of the above territory, is situated in a fertile and beautiful valley, surrounded by hills and watered by the Serchio, 12 m. N. E. by railway from Pisa and 49 m. W. from Florence; pop. about 26,000. The streets are well paved. The principal squares are the Piazza Ducale, Piazza S. Michele, and the Piazza del Mercato. The last, which is the most remarkable, and in which the market has been held since 1839, occupies the site and preserves the form of the ancient amphitheatre, which had 2 stories of 54 arches each, and could accommodate with seats nearly 11,000 spectators. The chief public buildings are the town house, the public library, the ducal palace, the Palazzo Pretorio, the Palazzo Mansi and the Palazzo Borghi (now used as a pauper asylum), with the so called Scaligerian castle and a lofty tower adjoining it, this palace as well as some others of Lucca having been originally intended for purposes of defence as well as for habitation and state. There are nearly 40 churches. The cathedral, dedicated to St. Martin, is of the 11th century, with archiepiscopal archives abounding in ancient historical documents, adorned with paintings by Tintoretto and other masters, with statuary and other works of art by Civitali and various eminent sculptors, and with a memorial known as the "altar of Liberty;" a small chapel near the altar contains an ancient crucifix carved of cedar wood, famous as a miraculous relic. Lucca possesses an academy of letters and sciences founded in 1817, and a number of educational and charitable institutions. Silk was introduced from Sicily into Lucca, the first place where it was produced and manufactured, and which in the beginning of the 14th century, according to Gibbon, enjoyed a lucrative monopoly of this industry, which, though diminished, continues to be carried on. The trade in raw silk, however, is still important, and it constitutes, together with oil, the staple product of the country. Cotton, wool, and cloth manufactures contribute also to the industrial activity of Lucca; and the neighbor-

ing seaport Viareggio is the chief place of export for Carrara marble.—The road to the celebrated baths of Lucca (about 14 m. from the city) is lined with picturesque villages, the principal of which, Ponte a Seraglio, occupies a central position between the Bagni Caldi and Bagni alla Villa, and contains a post office, a casino, an English book club, and many hotels, houses, and shops. The Bagni Caldi consist of two warm springs, in one of which the thermometer stands at 186°, and which has a larger proportion of salt than the other springs. The Bagni alla Villa have a spring of about 100°. The other baths are those of San Giovanni, with 2 springs of 98°, Doce Basse of 15 springs varying between 96° and 110°, and Barnabo, with a spring of 102°. The springs contain sulphates and muriates of lime and of magnesia, but chiefly sulphate of lime. The waters are beneficial for cutaneous and kindred diseases, and, the valley in which the baths of Lucca are situated being one of the finest and the coolest in Italy, they are a favorite summer resort, and contain many fine villas.—Lucca (anc. *Luca*) belonged to the Etruscans previous to becoming a Roman colony. In the middle ages it was a republic, often in conflict with Pisa and Florence, for some time siding with the former city at the head of the Ghibellines. Subsequently it fell into the hands of the Visconti of Milan; and after having been liberated from their yoke by the emperor Charles IV. in the latter part of the 14th century, it again became the prey of several petty tyrants, and eventually recovered its independence and formed a government, ruled by a small and narrow-minded aristocracy. An attempt to establish a more popular government made by the gonfaloniere Burlamacchi toward the middle of the 16th century failed, and its instigator was put to death. The Martinian law passed soon afterward, and so called after its author, the gonfaloniere Martino Bernardini, established a close form of aristocratic government resembling that of Venice, only a certain number of families being made eligible to office. These privileged families furnished the executive (*signoria*), consisting of 9 elders (*ansiani*), a *gonfaloniere* (chief magistrate), a senate of 36 members, and a great council of 90. The number of these favored families decreased from about 150 in 1600 to about 80 in 1797, when Lucca was seized by the French, with whose support the democratic party abolished the Martinian law, and organized a new form of government administered by 2 councils and a directory. In 1805 Lucca was given by Napoleon as a principality to his sister Elisa Baciocchi. After his fall it was occupied by Austria, and complications arose as to the future sovereignty of Lucca and Parma, there being two claimants, one Maria Louisa, ex-empress of Napoleon, and the other the Spanish infanta Maria Louisa, widow of Louis of Parma, for some time king of Etruria (Tuscany). Parma was allotted to the former, but to revert after

her death to the latter, who in the meanwhile was invested with the regency of Lucca, which however was to revert to Tuscany as soon as the death of the Austrian Maria Louisa had reinstated the Spanish Maria Louisa and her son upon the throne of Parma. The latter princess was succeeded, March 13, 1824, by her son Charles Louis, who had married in 1820 a daughter of the Sardinian king, Charles Albert. This prince spent most of his time abroad. Ward (died in 1858), an English groom who left Yorkshire as a boy in the pay of Prince Liechtenstein, and spent some years as a jockey in Vienna, ingratiated himself with the duke of Lucca, who promoted him from the stable to his household as valet, which service he performed up to 1846, when he was made master of the horse. Eventually he officiated as minister of the household and minister of finance, and was the ruling spirit of the duchy, until the abdication of the duke in 1848, afterward joining the service of the duke of Parma. Shortly after the outbreak of the Italian movement in 1847, the duke ceded Lucca (with the exception of some minor parts reverting to Modena and Parma) to Tuscany, to which it was officially annexed (Oct. 11, 1847) about two months previous to the time when it naturally must have been allotted to that country in consequence of the death of Napoleon's widow Maria Louisa, which, by vacating the throne of Parma for the Spanish family, terminated their rule in Lucca. It remained a province of the grand duchy of Tuscany until March, 1860, when, together with that part of Italy, it was annexed to Sardinia.

LUCCCHESINI, GIROLAMO, marquis of, a Prussian statesman, born in Lucca in 1752, died in Florence, Oct. 19, 1825. He was descended from a patrician family of Lucca. Being introduced through the abbé Fontana to Frederic II. of Prussia, he was employed by that monarch as librarian and reader. Afterward he officiated in diplomatic capacities for the Prussian court in Rome and Warsaw. Schlosser says: "This minister, who afterward, in connection with Lombard and Haugwitz, formed the triumvirate of the cabinet of Berlin, which proved so injurious to Germany, and finally to Prussia herself, then (about 1790) put in practice his genuine Italian diplomatic arts in Warsaw." He succeeded that year in concluding an alliance between the former power and Poland, but labored two years afterward as assiduously in subverting the alliance as he had in effecting it. From 1798 to 1797 he was ambassador in Vienna, and then, until Sept. 1802, in Paris. Subsequently he proceeded to Milan to meet Napoleon at his coronation there, and after having been with the king of Prussia during the battle of Jena, by means of his former acquaintance with the French emperor he procured the signing of a truce, which was rejected by the king. Lucchesini tendered his resignation, and afterward was chamberlain at the court of Napoleon's sister Elisa while she was grand

duchess of Tuscany. He wrote *Sulle cause e gli effetti della confederazione Renana*, &c. (German translation, Leipsic, 1821-'5), and various other works.

LUCENA, a Spanish town in Andalusia, about 80 m. S. S. E. from Cordova; pop. about 16,000. It is chiefly inhabited by an agricultural population and provincial gentry. Manufactures of coarse linens, earthenware, &c., are carried on. In the environs are esteemed medicinal baths.

LUCERN, one of the principal leguminous plants used in field husbandry, of the genus *medicago* and natural order of *fabacea*. The word is supposed to have its derivation in a corruption of the Languedoc word *lauzerda*, the plant being for centuries esteemed in France, and likewise cultivated in Spain under the name of *alfalfa*. For forage, it was not at one time well received in England, owing probably to some unsuitableness of the moist climate. The clovers (*trifolium* spp.) are much more highly esteemed, according to Loudon, who indeed says that the red clover (*T. pratense*) for mowing, and the white clover (*T. repens*) for pasturage, excel all other plants in this respect. In this country the red clover will also endure a severer climate than the lucern, the latter requiring greater heat and sunshine; but in a latitude equally suited to both plants it would be difficult to say which should have the preference. In some respects the lucern is decidedly superior, as in being perennial and consequently remaining longer in the soil. As a crop, lucern is as abundant as red clover, and whether green or dry is equally relished by cattle, while its yield of green fodder continues later in the season than that of red clover. There seems to be some diversity of opinion respecting lucern in different parts of the United States. It has been highly recommended as a plant fitted to the field culture of Massachusetts; yet we are informed by Dr. Darlington that it does not find much favor with the farmers of Pennsylvania, being now rarely seen there, though formerly cultivated on a small scale as fodder. He adds that its culture is successful in New Mexico, where it is cut several times in the season. ("American Weeds and Useful Plants," New York, 1859.) As early as 1798 and 1794 Chancellor Livingston made experiments with it as a forage crop, and spoke favorably of its merits in a paper published in the "Transactions of the Society for the Promotion of Agriculture," &c. (Albany, 1801). The late John Lowell of Massachusetts commended it in several articles, to be found in the 7th and 8th volumes of the "New England Farmer," for the years 1828-'30; and running through several successive years of the same journal may be found valuable remarks on its culture and uses. As late as 1857 Mr. Flint, in his fourth report as secretary of the Massachusetts board of agriculture, brings it before the attention of farmers in that state. It seems to be generally agreed that it

is useless to sow lucern upon poor sandy or gravelly soils, or on wet clays. In a good, rich, loamy soil, its roots strike down to a great depth, enabling it to resist drought and produce very profitable crops for from 5 to 10 or 12 years. It is conjectured that the failures in its cultivation have been owing to want of a proper attention to the preparation of the ground. In Europe it is customary to highly manure the field for 2 or 3 crops preceding the raising of the lucern, and to deeply plough and trench; it is thought necessary to have it clear of weeds, and for this purpose two successive crops of turnips are employed in getting it ready. Nearly the same practice is recommended in this country, as it is said that after lucern has been grown a few years on the same soil, the latter should be broken up and cultivated with some other crop or laid down to the natural grasses a length of time equal to that during which it had previously remained in lucern, when it can be safely sown with it again. Several of the leguminous plants seem to benefit rather than exhaust the ground on which they grow, as seen in the good results arising from the common locust tree when it is induced to grow upon thin soils, and in other instances. It has been conjectured that much of their nourishment is derived from the atmosphere, and that their leaves, stems, and roots are enabled to add to the soil in greatly increased proportions. The system of fallowing used abroad is, according to Liebig, practically to expose the land to a progressive disintegration by means of the atmosphere, for the purpose of rendering a certain quantity of alkalies capable of being appropriated by plants; and a careful tilling of fallow land increases and accelerates this disintegration. For the purposes of agriculture it is quite indifferent whether the land is covered with weeds and with such plants as do not abstract the potash of the soil. Many species of the *leguminosae* contain remarkably small quantities of alkali or salts in general, and not so much as one per cent. of the phosphates of lime and magnesia. Such plants belong to that class which are called fallow crops, and the reason why they do not exercise any injurious influence on the grasses and grains that are cultivated immediately after them, is that they do not extract the alkalies of the soils and only a very small quantity of the phosphates. In this way the lucern has performed an important office for the fields where it has been raised; and soils which would bear only a medium crop of wheat at first, have produced a greatly increased quantity after being laid down to lucern a few years until it had enriched them. It is best to cut lucern as soon as it begins to flower, or even earlier, when it is neither too succulent to cure readily, nor so coarse, hard, and woody as to be unpalatable to cattle. When cut and fed green it is an exceedingly valuable plant for soiling cattle, or it may be cut and cured and used like clover hay; but

in either case it must be cut before blossoming. The stem of lucern is erect; its leaves consist of 8 obovate-oblong, dentate leaflets, having lanceolate subdentate stipules; the numerous flowers are borne on racemes, are of a pale blue, violet, or purple color, and are succeeded by spirally twisted, finely reticulated, several-seeded pods. It is recognized as a species known to the ancients, being the *medick* (*μυδική*) of Theophrastus, and the *medica* of Pliny. The lucern of Switzerland, which is found to succeed upon poor soils, is quite another species (*M. falcata*), a native of Europe, on dry mountainous pastures, and a coarse and hardy kind.

LUCERNE (Ger. *Lucern*), a central canton of Switzerland, bounded N. by Aargau, N. E. by Zug, E. by Schwytz, S. by Unterwalden and Bern, and W. by Bern; area, about 600 sq. m.; pop. in 1850, 132,843, mostly Roman Catholics. The southern part of the canton belongs to the basin of the Reuss, and the N. part to that of the Aar. The former river flows through the lake of Lucerne. The other principal sheets of water are the Sempach and Baldeg (or Heideg) lakes. The canton is not mountainous excepting at its S. extremity, on the borders of Unterwalden and the Bernese Oberland, where however even the highest peaks of Mount Pilatus do not attain the limits of perpetual snow. The group of which this mountain consists is situated S. W. of the town of Lucerne, extending for nearly 30 m. along the borders of Lucerne and Unterwalden. The highest of the 7 peaks of this group are the Tomlishorn (about 6,900 feet) and the Esel (6,700). The soil is fertile, and yields more corn than is needed for the population. The rearing of cattle, however, is the principal branch of industry. Fruit trees abound, and the vine is cultivated to some extent. There are also some manufactures of linen, cotton, and other goods, and some commerce is carried on with Italy by the St. Gothard pass. The canton sends 7 members to the national council of Switzerland. The lake of Pilatus, which is associated with this canton by several historians of the middle ages, has been recently drained. The canton early joined the Swiss confederation. After 1830 it belonged to the so called "regenerated cantons" but its liberal constitution was overthrown in 1841 by the "theocratico-oligocratic" party, which led to the bringing in of the Jesuits in 1844, and the war of the Sonderbund in 1847—Lucerne being the head and centre of the 7 Catholic cantons. (See SWITZERLAND.)—LUCERNE, the capital, situated at the N. W. extremity of the lake of Lucerne, in sight of the snowy Alps of Schwytz and Engelberg, and 10 m. from Mount Rigi, is traversed by the river Reuss, and connected through the central Swiss railway with the principal towns of Switzerland; pop. in 1850, 10,068. The town is surrounded by a circle of ancient watch towers, and is walled in on the land side. The chief curiosities of Lucerne are the bridges which

span the Reuss, viz.: the mill bridge, which is decorated with paintings nearly obliterated of the "Dance of Death," the *Reussbrücke*, and the *Kapellbrücke*. Against the timbers supporting the roof of the last are suspended nearly 80 pictures illustrative of the patron saints of the town and of Swiss history. The *Hofbrücke*, the largest bridge, was removed in 1852. Commerce and industry are not very extensive. Near Lucerne is the monument erected in 1821 in honor of the Swiss guards who fell in the defence of the Tuileries, Aug. 10, 1792, the model for which was designed by Thorwaldsen.—**LAKE LUCERNE** (called *Vier-Waldstädter-See*, "lake of the four forest cantons," from the cantons of Uri, Unterwalden, Schwytz, and Lucerne, which form its shores) lies at a height of about 1,400 feet above the level of the sea, and branches in different directions, its various bays being named after the chief places situated on them. The W. branch is thus called the lake of Lucerne; the bay of Alpnach is on the S., that of Küssnacht on the N., and Buochs stretches E. and W.; while the bay of Uri constitutes the E. end of the lake. The total length is about 25 m.; the breadth varies greatly. Its scenery is superb. The patriotic (according to recent criticisms, legendary) deeds of William Tell took place on its shores. Perched on a cliff of the bay of Küssnacht is the ruined castle of New Hapsburg, and near it a fortress which belonged to the counts of Hapsburg, the progenitors of the imperial Austrian dynasty. The lake is visited by violent gales, blowing at the same time from opposite quarters of the compass in different parts of it.

LUCHETTO DA GENOVA. See CAMBIASO.

LUCIAN (Lat. *Lucianus*, Gr. *Λουκιανός*), one of the wittiest and most voluminous of Greek authors, born in Samosata, Syria, about A. D. 120, died in Egypt about 200. His parents being too poor to give him a learned education, he was apprenticed when about 14 years of age to his maternal uncle, a reputable sculptor in his native city. Receiving a severe flogging for an act of carelessness, he returned home, and devoted himself to the study of rhetoric and literature. He travelled for some time in Ionia, and having completed his studies began to practise as an advocate at Antioch; but, meeting with no success, he was driven to writing speeches for others, instead of delivering them himself. He next visited the greater part of Greece, Italy, and Gaul, giving lectures in the cities. At Athens he made himself familiar with the Attic dialect, and cultivated an acquaintance with the philosopher Demonax. In Gaul he appears to have remained for several years, and here he chiefly gained his professional reputation, and made himself rich. On returning to his native country, he applied himself to writing, but still travelled occasionally, visiting Ionia and Achaia about A. D. 160 or 165, and Paphlagonia about 170. While in Paphlagonia he planned various contrivances

for exposing the impostures of the pseudo-prophet Alexander, who accordingly ordered the crew of the vessel in which Lucian was returning home to throw him overboard. From this fate he was saved only by the intervention of the captain, who had him conveyed out of the ship and set on shore. In his latter days he was appointed procurator of part of Egypt, and was in expectation of a proconsulship when he died.—The works of Lucian are of a very miscellaneous character. The best known are his "Dialogues," compositions exhibiting various degrees of merit, and every variety of style, from sober seriousness to the broadest humor and buffoonery. They are in general directed against the gods, philosophers, and absurdities of paganism, which, according to Suidas, procured him the surname of the Blasphemer. In the "Sale of the Philosophers" the founders of the different sects are put up to auction, Hermes being the auctioneer. Pythagoras brings 10 minæ; Diogenes, with his rags and cynicism, but 2 oboli; for Democritus and Heraclitus there are no bidders; Socrates is knocked down to Dion of Syracuse for 2 talents; Epicurus goes for 2 minæ; Chrysippus the stoic is bought for 12; while Pyrrho, whose price is not mentioned, persists in doubting whether he has been disposed of or not, even after having been sold, paid for, and delivered. "The Banquet, or *Lapithæ*," is one of the most humorous of all Lucian's dialogues. The scene is a wedding feast at which a representative of each of the principal philosophic sects is a guest. The unlettered portion of the company behave with propriety; but the philosophers commence a discussion which ends in a pitched battle. The "Dialogues of the Dead" have found numerous and distinguished modern imitators, including Fontenelle, Voltaire, and Lord Lyttelton. The earlier editions of Lucian's works are those of Florence (1496) and Venice (1503). The best are those of Hemsterhuis and Reitz (3 vols. 4to., Amsterdam, 1743), and Lehmann (9 vols. 8vo., Leipsic, 1821-'31). There is an incomplete English version by Dr. Thomas Franklin (4 vols. 8vo., London, 1781); a much superior German one by Wieland (6 vols. 8vo., Leipsic, 1788-'9); a French translation by De Ballu (6 vols. 8vo., Paris, 1788); an Italian translation by Manzi (1819-'20); and an English version of the entire works by William Tooke (2 vols. 4to., London, 1820).

LUCIAN, SAINT, a Greek presbyter and theologian, born in Samosata, Syria, about the middle of the 3d century, died in Nicomedia, Bithynia, in 312. Having lost both his parents when 12 years old, he distributed his property to the poor, and removed to Edessa, where he was baptized, and became the pupil of Macarius, a Christian famed for his biblical learning. Having been admitted to orders, he repaired to Antioch, and there opened a theological school, attended by numerous students. He was excommunicated for heresy by 8 successive bishops of Antioch, and remained without the pale

of the church for several years. He was in fact the founder of Arianism, and even the great leader who subsequently gave name to that form of doctrine did not disdain to avow himself his disciple, as is evident from a letter addressed by him to Eusebius of Nicomedia, in which he calls that prelate "fellow Lucianist." Lucian finally submitted himself to the authority of the church, and attained a higher reputation for learning and piety than ever. In the persecution under Maximinus, having been arrested in Antioch, he was transported by land to Nicomedia, and put to the torture, soon after which he died in prison. He was enrolled in the calendar of the church as a saint and a martyr. He was the author of two short treatises on the Christian faith, and of some letters, all of which have perished, except one fragment, preserved in the "Alexandrian Chronicle." His greatest work was a revision of the Septuagint, which was generally used in the eastern churches.

LUCIFER (Lat., the bringer of light), the name of the planet Venus, when it is a morning star, Hesperus being its name when it appears in the evening. In Greek mythology, Lucifer was the son of Astræus and Aurora, and together with the Hours had charge of the horses and the chariot of the Sun.—Lucifer is also one of the names of the devil, being applied to him from an allegorical interpretation by the church fathers of a passage (Isaiah xiv. 12) in which the king of Babylon is likened to the morning star.

LUCIFER, bishop of Oagliari, died about 370. In 354 he was sent by Liberius, bishop of Rome, as legate to the council of Milan, to uphold, in conjunction with Eusebius of Vercelli, the cause of the Catholic church against the Arian emperor Constantius. In consequence of the firmness with which he withstood the wishes of Constantius, he was arrested, and carried from place to place as an exile, suffering great hardships. While residing at Eleutheropolis, in Palestine, he composed his principal work, entitled *Ad Constantium Augustum pro Sancto Athanasio*. On the death of Constantius Lucifer was restored to freedom, and commissioned by the council of Alexandria to aid in healing the disorders which afflicted the church of Antioch in consequence of the supposed Arianism of Meletius its bishop. His violence, however, only increased those disorders, and exposed him to the censure of his best friends. Chafing under the rebuke, and disgusted with the moderation of his party, he retired in 363 to his native island of Sardinia, and there founded a small sect called Luciferiani, whose most distinguishing characteristic was inveterate hostility to Arianism. The first edition of his works appeared at Paris in 1568; the best is that of the Coleti (Venice, 1778).

LUCILIUS, CATUS, a Latin poet, born in Suessa, a city of the Aurunci, in 148, died in Naples in 103 B. C. He served at a very early age under the younger Scipio in Spain, and is said

to have been maternal grand-uncle of Pompey the Great. He was one of the fathers of Latin poetry, and, if not absolutely the inventor of Roman satire, he was at least the first to mould it into that form which received full development in the hands of Horace, Persius, and Juvenal. The satires of Lucilius (as they are collectively called, though many of them appear not to have been of a satirical character) originally consisted of 80 books, of which over 800 fragments are still extant, the greater number however consisting of single lines or isolated couplets, and the longest of them extending to only 18 verses. The fragments of Lucilius were originally collected by Robert and Henry Stephens, and published in the *Fragmenta Poetarum Veterum Latinorum* (Paris, 1584).

LUCINA (Gr. Εὐαῖδνα, Ilithyia), the goddess who, among the Greeks and Romans, was supposed to preside at the birth of children. According to the Hesiodic theogony, she was a daughter of Jupiter and a sister of Hebe and Mars, but in later times she was regarded as identical with Juno or Diana. Her principal places of worship were Rome, Crete, and Athens. On her festival, celebrated March 1, the matrons adorned her temples with flowers and prayed for fecundity, an easy delivery, and a fortunate posterity. Her worship was probably founded among the Dorians in Crete, and thence spread over Delos and Attica. Her birthplace, according to Cretan tradition, was a cave in the territory of Cnossus; others believed that she came from the Hyperboreans.

LÜCKE, GOTTFRIED CHRISTIAN FRIEDRICH, a German theologian, born in Egeln, near Magdeburg, Aug. 23, 1793, died in Göttingen, Feb. 14, 1855. He studied at the universities of Halle and Göttingen, where Knapp, Gesenius, and Planck were among his teachers. His first published work was *De Ecclesia Apostolica* (Göttingen, 1813), a prize essay. In 1813 he became tutor in the theological faculty of Göttingen. In 1816 he went as *Privatdocent* to Berlin, attracted especially by the reputation of Schleiermacher, who henceforth numbered him among his warmest friends and greatest admirers, though Lücke can hardly be called his follower. In 1818 he accepted a call to the new university of Bonn; but in 1827 he returned, as ordinary professor, to Göttingen. His two most important works are: *Grundriss einer neutestamentlichen Hermeneutik* (Göttingen, 1817), and a "Commentary on the Gospel according to John" (4 vols., Göttingen, 1820-'32). The latter work, in particular, is still classed among the best exegetical productions of German theology. In Berlin, he edited with Schleiermacher and De Wette the *Theologische Zeitschrift*; in Bonn, with Gieseler, the *Christliche Zeitschrift*. Afterward he was assistant editor of the *Studien und Kritiken*, and a frequent contributor to the *Deutsche Zeitschrift für christliche Wissenschaft*, the *Göttinger gelehrte Anzeigen*, and other journals. His biographical essays on his teacher Planck (1835) and his friends De Wette

(1850) and Schleirmacher (1854) are especially valued. His library was purchased after his death for the divinity school at Cambridge, Mass.

LUCKNOW, a city of Hindostan, capital of the province and former kingdom of Oude, situated on the S. bank of the river Goomtee, which is here navigable at all seasons, 610 m. N. W. from Calcutta, 280 m. S. E. from Delhi, and 53 m. N. E. from Cawnpore; lat. $26^{\circ} 52'$ N., long. $81^{\circ} E.$; pop. in 1856 estimated at 300,000. The Goomtee is here crossed by 3 bridges, one of iron, one of stone, and one of boats. A distant view of the city, with its numerous turrets and pinnacles, conveys a pleasant impression, which is dissipated however by a closer inspection of its narrow, filthy streets, and mean mud or bamboo houses thatched with straw. The streets are generally 10 or 12 feet below the level of the shops on each side, but the English quarter is well built and adorned with gardens. In contrast with the dwellings of the native population, there are many public buildings of remarkable beauty. The Shah Nujeeb, or Imambarra of the nabob-vizier Azof-ud-Dowlah, is a fantastic brick structure, coated with white cement, and topped with several Moslem minarets and pointed Hindoo domes. It consists of a number of buildings surrounding two courts which are entered by magnificent gateways. The name Imambarra denotes a kind of edifice erected by Mohammedans of the Sheeah sect for the celebration of the festival of the Mohurram. Of 5 royal palaces in the city, the principal are the Fureed Buksh, a long range of buildings on the river bank, more remarkable for size than beauty, and the Kaiserbagh. The kings of Oude had also many fine country seats in the neighborhood, one of the most elegant of which is the Dilkoosha (Heart's Delight), about 2 m. toward the S. The Begum Kothee is a collection of palatial edifices formerly occupied by native princesses. "Constantia" is the name given to a curious mansion, loaded with incongruous ornaments, which was erected by the French adventurer Claude Martin, who went to India as a private soldier and rose to great power and opulence under the native government. A better monument to his memory is the Martinière, a college for half caste children. An English church, an observatory, and a hospital and dispensary are the other principal buildings. The British residency was destroyed during the siege of Lucknow at the time of the late mutiny. Since that event many changes have also been made in the plan of the city, as whole streets have been pulled down in accordance with the system of defence adopted by the British in 1858. The seat of government of the former kingdom of Oude was removed from Fyzabad to Lucknow in 1775, and the latter city continued to be the royal residence until the annexation of the territory to the British dominions.—During the mutiny of 1857 Lucknow was the theatre of many exciting events. Disaffection manifested itself among the native troops in

the early part of April. The sepoys set fire to a number of bungalows, and refused to use their cartridges, and a regiment was consequently disarmed, May 3, the ringleaders being imprisoned. On May 30 other insurrections took place, and though some of the mutineers were captured or killed, most of them escaped to Seetapore and gave the signal for rising to nearly all the native regiments in the province. In the mean time the chief commissioner, Sir Henry Lawrence, had placed the residency and a wide enclosure around it in a state of defence, and collected there many of the women and children and the principal stores. Several other posts were also garrisoned, but subsequently abandoned. On June 30 Lawrence marched out to attack a body of rebels about 8 miles from the city, but fell into an ambush at Ohinut and was routed with great loss. The mutineers now collected in force around the residency, and began a vigorous siege. Lawrence was killed by a shell (July 4), and was succeeded by Major Banks as civil commissioner and Brigadier Inglis as military commandant. The besieging force at this date amounted to 10,000; the British did not number 1,700, and this disparity was not counterbalanced by any superiority of fire or engineering skill on the part of the garrison. After 12 weeks' defence, during which the British suffered from the ravages of cholera, small pox, and fevers, scarcely less than from the fire and assaults of the enemy, Gens. Havelock and Outram fought their way in with a relieving force, Sept. 25, but suffered such loss that they were unable either to withdraw the garrison or to bring in their own ammunition, baggage, and sick and wounded that had been left at the Alumbagh fort, about 4 m. distant. Among the killed was the gallant Gen. Neill. The defence was now resumed with fresh vigor, Sir James Outram, as senior officer, taking the command; the line of intrenchment was enlarged, and the diseases and discomforts heretofore occasioned by the narrowness of the British quarters were in some degree avoided, but the garrison suffered with increasing severity from scarcity of provisions. At the same time a defence no less gallant was maintained at the Alumbagh by the small party which had been left there under Col. McIntyre, until on Nov. 11 Sir Colin Campbell reached that fort on his way to Lucknow. On the 14th he captured the Dilkoosha and Martinière, and on the 17th, after some desperate conflicts in which the beleaguered garrison ably seconded their rescuers, the 3 generals met. A day or two later the residency was evacuated, the British withdrawing by night to the Dilkoosha, where on the 25th Sir Henry Havelock died of dysentery. Gen. Outram was left with a division at the Alumbagh to watch the enemy, and the rest retired in safety to Cawnpore. The condition of the garrison during this heroic defence of 5 months is best seen by the following statement of their strength at the outset, at

the relief by Havelock, and at the rescue by Campbell:

Date.	Europeans.	Natives.	Total.
July 1.....	937	785	1,692
Sept. 25.....	577	402	979
" 26.....	2,707	718	3,420
Nov. 19.....	1,988	268	2,256

During this period it was calculated that the number of shot and other projectiles fired by the rebels averaged one every second. "I am aware," said Sir James Outram, "of no parallel to our series of mines in modern war. Twenty-one shafts, aggregating 200 feet in depth, and 3,291 feet of gallery, have been executed. The enemy advanced 20 mines against the palaces and outposts; of these they exploded 3 which caused us loss of life, and 2 which did no injury; 7 have been blown in; and out of 7 others the enemy have been driven and their galleries taken possession of by our miners." In Jan. 1858, Outram was subjected to another siege at the Alumbagh by 30,000 rebels, whom he defeated with about $\frac{1}{10}$ that number of troops; and on Feb. 21, with 6 guns and not quite 400 men, he routed another force of 20,000. In the mean time the insurgents had fortified the city and placed in it a garrison estimated at from 40,000 to 80,000 strong. Sir Colin Campbell arrived to besiege them about March 1, and on the 5th had collected an army of 22,000 men. Sending Outram to the N. side of the Goomtee, he was enabled to conduct his approaches on both banks at once, capturing the principal buildings one after another, and gradually advancing toward the Kaiserbagh and the Begum Kothee, which were judged to be the keys of the whole city. Almost every house and enclosure had been fortified and loopholed. The British operations were conducted chiefly by the artillery and engineers, the sappers cutting through the lower walls of the buildings or making passages under ground, and the infantry assaulting only when other resources failed. Thus Campbell's loss did not exceed 1,100, while that of the mutineers was 4 or 5 times as great. The Begum Kothee was taken on the 11th, and on the same day the commander-in-chief had an interview with the Nepaulese chieftain Jung Bahadoor, who had brought 9,000 Gorkhas to his assistance. On the 14th the Imambarra and Kaiserbagh were captured, on the 20th Sir Colin issued a proclamation calling upon the peaceable inhabitants to return to their houses, and on the 21st the final conquest of the city was complete. Most of the rebels made their escape; among them were the newly proclaimed young king of Oude, his mother the Begum, and the fanatical Mohammedan leader known as the Moulvie. The British commander now placed the city in a state of defence, and left a garrison there, while the main body of the army was broken up for service in detachments.

LUORETIA. See BRUTUS, LUCIUS JUNIUS.

LUORETIUS (TITUS LUORETIUS CAEUS), a Roman philosophical poet, concerning whose personal history little is known. According to the Eusebian chronicle, which is almost the sole authority, he was born in 95 B. C., was driven mad by a philter, composed in his intervals of reason several works which were revised by Cicero, and died by his own hand in 52 B. C. There are no other particulars concerning his life from authentic sources. He is known only as the author of *De Rerum Natura*, which is by universal consent the greatest of didactic poems. It is in 6 books, in heroic verse, extends to 7,400 lines, and is addressed to C. Memmius Gemellus, praetor in 58 B. C. It is designed to develop clearly and to illustrate in an attractive way the atomic theory of the universe; to show that there is nothing in the history or condition of the world which requires the creative agency of a supreme power, but that all objects may be formed by the union of elemental particles governed from all eternity by certain laws. The first book contains a magnificent apostrophe to Venus, as the allegorical representation of the reproductive power, an invective against the monster superstition, an elucidation of the formula that nothing can be produced from nothing, and a statement of the doctrine of ultimate atoms. The development of the atomic theory occupies the 2d book. The 3d book aims to prove that soul and body are one and indistinguishable, and live and perish together, and closes with a fine exposition of the folly of fearing death, which is to extinguish feeling for ever. The 4th treats of the senses, of sleep, dreams, and love. The 5th and most impressive book discusses the origin of the world, the movements of the heavens, the changes of the seasons, and the progress of man, society, institutions, inventions, and sciences. The 6th book explains extraordinary natural phenomena, as thunder, lightning, storms, earthquakes, and volcanoes. Throughout the work the most abstruse speculations are clearly embodied in majestic verse, and the dryness of the subject and the absurdity of the views are relieved by the sublimity of the poetry and by digressions of remarkable power and beauty. The best editions are those of Gilbert Wakefield with Bentley's notes (3 vols. 4to., London, 1796, and Glasgow, 1813) and of Forbiger (Leipsic, 1828). There are complete English translations in verse by John Mason Good (1805), and by Thomas Busby (1813), and in prose by the Rev. J. S. Watson (1851), which forms with the version of Good one volume of "Bohn's Classical Library."

LUOULLUS, LUCIUS LICINIUS, a Roman general, born about 109 B. C., died about 57 B. C. His first appearance in public life was as the accuser of the augur Servilius, who had procured the banishment of his father. This prosecution, though unsuccessful, and leading to scenes of violence and blood, was yet deemed highly creditable to the young Luullus. He served in the social war, and after-

ward accompanied Sylla to Greece and Asia as quaestor, on the outbreak of the first Mithridatic war, 88 B. C. During the siege of Athens, Lucullus, in obedience to the orders of Sylla, collected a naval force from the allies of Rome, with which he defeated the fleet of Mithridates off the coast of Tenedos. After the conclusion of peace with the king of Pontus he was appointed to collect from the cities of Asia the tribute which Sylla had imposed on them as a punishment for their recent revolt. In the discharge of this duty Lucullus displayed the utmost humanity and kindness. In 80 he returned to Rome to fill the office of curule aedile, to which he had been elected in his absence, together with his younger brother Marcus. The games exhibited by the Luculli during their aedileship were remarkable for their magnificence, and for being the first at which combats of elephants and bulls were introduced. The elder brother was so highly esteemed by Sylla that the ex-dictator confided to him the revision and correction of his Commentaries, appointed him guardian of his son Faustus, and caused a special law to be passed to enable him to hold the praetorship immediately after he had been aedile. In 74 he was consul with M. Aurelius Cotta, and having been appointed to conduct the second war against Mithridates, he carried it on for 8 years with almost invariable success; defeated the king and his generals both by sea and land, and compelled him to seek an asylum at the court of Tigranes, king of Armenia; invaded the latter kingdom, vanquished its sovereign, and captured his capital; and was only prevented from consummating the overthrow of his formidable antagonist, and bringing the war to a triumphant conclusion, by the insubordination of his own soldiers. He also devoted much of his attention to the condition of the provinces, which were suffering under the oppressions of the Roman revenue officers, who thus became his enemies. At length the Manilian law was enacted, which deprived Lucullus of his command, and gave it to his rival Pompey. He returned to Rome, and for the rest of his life took hardly any part in public affairs, but spent most of his time at his rural villas, in the enjoyment of a princely fortune, and in conversation with philosophers and literati. He collected a valuable library, which was open to all, and wrote a history of the social war in Greek, which is lost. His gardens near Rome were laid out in a style of extraordinary splendor, and his horticultural works in the neighborhood of Neapolis were on so gigantic a scale that Pompey called him in derision "the Roman Xerxes." He spared no expense in the entertainment of his friends, and a single supper which he gave them is said to have cost him 50,000 denarii, or about \$8,500. He was the first introducer of cherries into Europe, the tree receiving its Latin name from Cerasus, a town of Pontus.

LUDEN, HENRICH, a German historian, born

in Loxstedt, duchy of Bremen, April 10, 1780, died in Jena, May 28, 1847. He studied theology, history, and philosophy at Göttingen. In 1806 he became extraordinary, and in 1810 ordinary professor at Jena, where he lectured principally on history. He was a very popular teacher, and induced many young men of talent to devote themselves to history. When a considerable part of Germany was under the rule of the French, Luden was among the first and most influential writers who stirred up the patriotic sentiments of the Germans. His historical publications are very numerous, including, beside biographies of Thomasius (Berlin, 1805), Hugo Grotius (1806), and Sir William Temple (Göttingen, 1808), a comprehensive work on the history of antiquity, *Allgemeine Geschichte der Völker und Staaten des Alterthums* (Jena, 1814); a history of the middle ages, *Allgemeine Geschichte der Völker und Staaten des Mittelalters* (1824); *Die Geschichte des deutschen Volkes* (12 vols., Gotha, 1825-'37), which reaches only to 1287; and others. For 4 years (1814-'18) he was the editor of the "Nemesia, a Journal devoted to Politics and History," published at Weimar. A posthumous work, *Rückblicke in mein Leben* (Jena, 1847), contains many valuable notices of persons and events of his times.

LÜDERS, ALEXANDER NICOALAIVITCH, a Russian general, born in 1790, of a German family long settled in Russia and distinguished in its state service. He entered the army in 1807, was engaged in the war in Finland in 1808, and took part in the campaigns against Napoleon from 1812 to 1814. In 1831 he led a brigade in Poland, and distinguished himself at the taking of Warsaw. In 1838 he took the place of Muravieff at the head of the 5th corps of infantry. He served in the Caucasus in 1848, and after a long furlough, rendered necessary by ill health, he was sent to the Danubian principalities in July, 1848. In 1849 he entered Transylvania under the convention between the emperors of Austria and Russia with 40,000 men. After capturing Cronstadt and Hermannstadt, he twice defeated Bem, and then marching into Hungary proper, was present with Rüdiger at the surrender of Görgey. When the Crimean war began, Lüders, under command of Gortchakoff, was placed on the Danube, and made a difficult march toward Silistria, but was compelled by sickness to leave the army. When restored to health in March, 1855, he took command of the army of the south, establishing his head-quarters first at Odessa, then at Nicolaieff. In Jan. 1856, the emperor Alexander gave him the superior command in the Crimea, and he was engaged in preparation to carry on the war with the allies when it was ended by the treaty of Paris (March 30), and Lüders retired from the army.

LUDLOW, EDMUND, an English republican, born in Maiden-Bradley, Wiltshire, in 1620, died in Vevay, Switzerland, in 1693. His father, Sir Henry Ludlow, was an extensive land owner in Wiltshire, and one of its repre-

sentatives in the long parliament, where he was a strenuous opponent of the crown. Edmund was educated at Trinity college, Oxford, and on the outbreak of the civil war joined the army of Lord Essex as a volunteer, and was present at the battle of Edgehill. After the death of his father he was returned to parliament for Wiltshire, and obtained the command of a regiment of cavalry. From this period he became prominent as a popular leader, and filled various important civil and military offices. He was a thorough republican, and steadily advocated the establishment of a commonwealth. He was one of the most inflexible of the king's judges, and an ardent supporter of the bill for the abolition of the house of peers. His sturdy independence rendering him obnoxious to Cromwell, he was removed out of the way by being appointed to a high military command in Ireland in 1650. When Cromwell assumed the protectorate, Ludlow entered his solemn protest against the act, and on returning to England refused to recognize the protector's authority. Hence he was regarded with distrust, and compelled to give security not to plot against the government. He then retired into Essex, where he remained till Cromwell's death. Resuming his public career, he took an active part in the political proceedings of the day, laboring to effect the restoration of the commonwealth; but, deeming the return of the Stuarts inevitable, he withdrew from London, and soon afterward went to Switzerland. He returned to England at the revolution of 1688; but being threatened with arrest, he betook himself again to Switzerland, where he passed the rest of his life, engaged in the composition of his "Memoirs." They were published at Vevay (3 vols. 8vo., 1698-'9), and have since gone through various editions. Over the entrance of his villa at Vevay, Ludlow placed the following inscription: *Omne solum forti patria.*

LUDOLPHUS, or LUDOLF, JOH., a German orientalist, born in Erfurt, June 15, 1624, died in Frankfort-on-the-Main, April 8, 1704. He was educated at the university of Leyden, and in 1649 visited Rome, and perfected himself in the knowledge of Ethiopic by conversation with certain Abyssinians who were then sojourning in that city. He afterward filled various official positions, and in 1690 he was made president of the academy of history at Frankfort, where his latter years were spent. He was one of the most eminent orientalists of his age, and was the author of many valuable works relating especially to Ethiopia and its language.

LUDVIGH, JÁNOS, a Hungarian patriot, born in Béla, county of Zips, in 1812. He was a member of the diet of Presburg in 1838, and repeatedly reelected; was a zealous supporter of Kossuth at the diet of Pesth in 1848, and subsequently a commissary of the national government to the main army under Görgey, with whom he remained till July, 1849. After the suppression of the revolution, he escaped to

Germany, and thence went to France, being hanged in effigy at Pesth. He now resides in Brussels, where he has published *Nouvelle page de l'histoire des Habsbourgs* (1859), *La Hongrie et la Germanisation Autrichienne* (1860), *La liberté religieuse et le Protestantisme en Hongrie* (1860), *La Hongrie devant l'Europe* (1860), beside numerous contributions to political and literary periodicals.

LUDWIG OF BAVARIA. See LOUIS.

LUIGI, ANDREA DI, called also L'INGEGNO and ANDREA DI ASSISI, an Italian painter, born in Assisi about the middle of the 15th century, died subsequent to 1511. Considerable interest has attached to the history of this painter from the account of him given by Vasari, and which passed current until within a few years. By this it would appear that he was an artist of great genius, the rival and fellow pupil of Raphael, and that in the bloom of youth and the maturity of his powers he was suddenly afflicted with total blindness while assisting his master Perugino in painting his frescoes in the Sistine chapel; whereupon he was pensioned by Sixtus IV. Rumohr in his *Italienische Forschungen* has satisfactorily proved the whole story to be a fiction, and has assigned to Luigi a much lower place as an artist than he has hitherto held.

LUINI, or LOVINI, BERNARDINO, an Italian painter, born at Luino, on the Lago Maggiore, in the latter half of the 15th century, died subsequent to 1580. He is supposed to have been a scholar of Leonardo da Vinci from the closeness with which he imitated his style. The best judges are frequently at a loss to discriminate between the two, and out of Italy Luini's pictures are almost invariably ascribed to Leonardo. The "Christ Disputing with the Doctors," in the British national gallery, formerly attributed to Leonardo, is now supposed to be the work of Luini. His best pictures in oil and fresco are in Milan, Lugano, and Saronno, including his "Magdalen," "St. John with the Lamb," and "The Enthroned Madonna." In elaborate finish, beauty of color, and expression, they are hardly inferior to the works of Leonardo. His frescoes are among the finest early specimens of the art. His two sons, Aurelio and Evangelista, assisted him occasionally in his frescoes.

LUKE, SAINT, the evangelist, the author of the third Gospel, and, according to ecclesiastical tradition, also of the Acts of the Apostles. The name is now generally regarded as an abbreviation of Lucanus. It appears only 8 times in the New Testament. If these passages refer to the author of the Gospel, he was a physician and a collaborator of St. Paul. If Luke was also the author of the Acts, he was in A. D. 53 with Paul in Troas, and accompanied him thence as far as Philippi. He followed Paul on his third missionary tour through Macedonia, over Troas, Miletus, Tyre, and Cæsarea, to Jerusalem, and was with him again when Paul was sent as a prisoner to Rome. This is all

that is recorded of him in the New Testament, and even Irenæus knew nothing that could be added to it. Many more statements concerning his person are found in the ecclesiastical writers of later centuries. According to Eusebius and others, he was a native of Antioch. Epiphanius made him one of the 70 disciples, and one of the two disciples who went to Emmaus. By Epiphanius he is said to have labored in Dalmatia, Italy, Macedonia, and especially in Gaul; by Eusebius, to have gone to Africa. The legend that he was a painter is first alluded to by Nicephorus. Constantinople, Patmæ in Achaia, and several other towns are mentioned as the place where he died. Jerome ascribes to him an age of 84 years. The Roman Catholic church celebrates his festival on Oct. 18. The testimonies which ascribe to Luke the authorship of the third Gospel reach back to the highest antiquity. Irenæus mentions that Luke wrote down the Gospel proclaimed by Paul; and all admit that at the time of Irenæus and Tertullian, his Gospel was accepted throughout the whole church in its present form. A statement of Tertullian, that Marcion so changed a copy of the Gospel of Luke as to make it conform to his own views, has called forth in modern times a number of investigations of the relation of Luke's Gospel, as we have it in the New Testament, to that of Marcion. Ritschl (*Das Evangelium Marcions*, 1846) and Baur (*Die Kanonischen Evangelien*) attacked the authenticity of the Gospel of Luke, and claimed for that of Marcion a priority of time; while Hilgenfeld (*Das Evangelium Justini*, 1850) and Volkmar (*Das Evangelium Marcions*, 1852), with many others, advocated the originality of Luke's. The statement in the first verse of the Gospel of Luke, that "many" before him "have taken in hand to set forth a declaration of those things which are most surely believed among us," has been understood by several interpreters as intimating an acquaintance with the Gospels of Matthew and Mark on the part of Luke, while others refer the expression "many" to other writers. As the occasion for writing his Gospel, the author himself mentions (Luke i. 3) his desire to give to his friend Theophilus a faithful narrative of the life of Christ. With regard to the time of its composition, the prevailing opinion before De Wette and Credner was, that it was written previous to the destruction of Jerusalem; but more recently the opinion that it was composed after that event has found advocates in different theological parties. Achaia, Boeotia, and Alexandria are mentioned by the ancients, and Cæsarea and Rome are suggested by modern writers, as the place where the Gospel was composed.—The Acts are likewise addressed to Theophilus. They were written after the Gospel (Acts i. 1, 2), and at all events after the year 64, as Paul during his captivity was teaching in Rome for two years. Since Jerome the opinion has generally prevailed that they were composed at Rome.

Some postscripts in manuscripts and versions point to Alexandria, while several modern writers, as Köstlin, have assumed Asia Minor. Valuable commentaries on both the Gospel and Acts are contained in the collective works of Olshausen, De Wette, Meyer, and Lange (the commentary on Luke (1860) is by Oosterzee); commentaries on the Gospel of Luke in Kuinoel's, Jacobus's (professor in Alleghany seminary), and J. J. Owen's (of New York) commentaries on the Gospels. A commentary on the Acts was also published by Joseph Addison Alexander (1857). Some other works, which have been sometimes ascribed to Luke in the ancient church, as *Acta Pauli*, *Liturgia XII. Apostolorum*, were long ago acknowledged to be spurious.—See Schleiermacher, *Die Schriften des Lucas* (Berlin, 1817).

LULLY, or LULLI, JEAN BAPTISTE, the founder of the French opera, born in Florence in 1633, died in Paris, March 23, 1687. He was of obscure parentage, but having at the age of 10, by his wit, vivacity, and skill on the guitar, attracted the attention of the chevalier de Guise, he was taken by him to Paris as a page for Mlle. Montpensier, the niece of Louis XIV. His personal appearance not pleasing his mistress, he was degraded to the kitchen, where he served in the capacity of a scullion. He possessed a strong taste for music, however, and his leisure hours were spent in practising on an old violin, until he had become a tolerably skilful performer. The princess, hearing of his proficiency, had him instructed under an able master, and in a few months he was admitted into the king's *bande des vingt-quatre*, so called from the number of the instruments, which were all violins. Having composed some airs which pleased the king, he was placed at the head of a new band of 12 violins, called *les petits violons*, which under his direction soon eclipsed the famous twenty-four. To the impulse given by this nucleus of performers French musicians trace their present orchestral proficiency. Lully, continuing to rise in favor with the king, became director of music at the court, and for many years composed airs and accompaniments for the court ballets, a species of dramatic entertainment antedating the opera, and consisting of dances interspersed with singing and recitative. He also furnished music for many of Molière's comedies, in some of which, such as the *Bourgeois gentilhomme*, he performed with great success. The establishment of the opera in France, however, was the chief development of his musical genius. Having obtained in 1673 a patent for opening a theatre for the performance of lyrical pieces, in conjunction with the poet Quinault he devoted himself thenceforth wholly to the composition of operas. His works of this class number 19, and were highly popular with the king and the court. Louis, it is said, would listen to no music but Lully's, whose caprices he was accustomed to indulge with the utmost patience. In the height of his reputation Lully

met with his death in a singular manner. While conducting the performance of a *Te Deum*, composed by himself in honor of the king's recovery from sickness, he accidentally struck his foot violently with the cane with which he was beating time. Inflammation having set in, he had the folly to put himself under the care of a quack, whose treatment he did not long survive. On his deathbed he was required by his confessor, in token of his sincere repentance, to burn the opera he was then engaged in writing. The prince de Conti reproaching him soon after with the destruction of so much good music: "Hush," whispered Lully, "I knew very well what I was about; I have another copy of it."—Lully's claim to be called the father of French dramatic music was earned by many years of meritorious professional labor. He may be said to have created orchestral music in France by the new combinations of sound and the fuller harmonies he introduced into instrumental composition, as well as by the exactness of execution he demanded from the performers. He devoted many hours of each day to drilling his orchestra and singers, and so delicate was his ear that from a remote corner of the theatre he could distinguish the least variation from time or tone in any one of the performers. Sometimes in a fit of passion he would break his instrument over the back of the unlucky violinist; but after the performance he would pay him more than its value, and invite him to dinner. His reputation rests chiefly upon his operas, which are animated by a fine dramatic spirit, and frequently show beauty and pathos in the melodies, although the quaintness and barrenness of the harmonies would contrast but indifferently with the works of modern composers. He is entitled to the credit of having invented the overture, and that spirited movement, the *largo*, which is the general introduction to the fugue. Handel has acknowledged that he modelled his overtures from those of Lully, and Purcell derived many valuable hints from his works. The composer lived in great affluence, and to the day of his death remained in favor with Louis XIV. At his own request he was made one of the *secrétaires du roi*; and when that body hesitated to admit him as a member, the monarch said to him: "I have honored them, not you, by putting a man of genius among them." Most of Lully's biographers describe him as irritable and insolent to his inferiors, jealous of his compeers, selfish, and addicted to gross pleasures. He had however the art of making and preserving influential friends, and passed in society for a brilliant and vivacious man. His avarice gained him the name of Lully *le ladre* among the gentlemen of the court, and to the predominance of this trait has been ascribed his quarrel with Molière and La Fontaine, the latter of whom wrote the only satire he ever penned against the composer. Lully left a fortune of 600,000 livres, the savings of a life of unusual prosperity.

LULLY, RAYMOND (RAIMUNDO LULLIO), surnamed the "enlightened doctor," a Spanish philosopher and theologian, born at Palma in the island of Majorca in 1285, killed at Boughiah in Algeria in 1315. He was the son of a Barcelonese nobleman in the service of the king of Aragon, and was trained to the profession of arms. After a career of scandalous excesses, at the age of 80 he suddenly renounced the world and its pleasures, divided his property among his family and friends, and, assuming the habit of a Franciscan monk, retired into a solitary place for the purpose of preparing himself for the labors and duties of a missionary, to which, he said, Christ had summoned him in a vision. Here he went through a course of philosophy, theology, and ancient languages, and, having learned Arabic from a slave, became acquainted with the philosophical works of Averroes and other Moorish writers, from which he is supposed to have derived the germ of that system of dialectics by which he hoped to reform science and convert Mohammedans, Jews, and pagans to Christianity. Inspired, as he said, by another heavenly vision, he published in 1276 his *Ars Magna*, in which his system is unfolded at length, and immediately went in search of patrons and proselytes. The remainder of his life was one long and toilsome pilgrimage. Having prevailed upon the king of Aragon to establish a monastery at Palma for the education of missionary monks, he spent many years in fruitless endeavors to procure from successive popes and kings the means of carrying his system into practical operation. He met with no greater encouragement in his attempt to incite a general crusade against the Moslems. Nothing daunted by these disappointments, he determined to go to Africa and test the effects of the "great art" upon the infidels. Scarcely had he broached his design there when he was driven out of the country. He returned to Europe for assistance, was again unsuccessful, and after remodelling his system, he revisited Africa, and at Boughiah employed the "great art" in an argument on the Trinity with a learned Mohammedan, under the pretence of a desire to be converted to Islamism. His design was detected, and he escaped death only by the intercession of his antagonist. Upon his return to Europe, although then 70 years of age, he abated in no respect his exertions for the conversion of the infidels, but travelled through the chief cities preaching a crusade for the recovery of the Holy Land, and urging the necessity of adopting his doctrines. Again unsuccessful, with a zeal which no disappointment could dampen, he went a 3d time to Africa, and was stoned to death at Boughiah in the 80th year of his age. The body of the aged martyr, whom his countrymen deemed worthy of canonization, was brought to his native place for burial.—The *ars magna* of Lully, or *ars Lulliana*, as his followers called it, is a sort of logical machine for combining certain classes of ideas and thereby solving all scientific ques-

tions; or a method of reasoning without the necessity of study or reflection. By means of letters, figures of squares, triangles, and circles, and of sections (*camere*), an indefinite number of formulas is obtained, affording, as it were, the key to all metaphysical problems. This science of sciences, which it was the object of Lully's life to bring into general use as a means, not merely of converting the heathen, but of facilitating the determination of all questions, human or divine, underwent various modifications and improvements in the course of his life. It found many adherents in Spain, and had colleges in Palma, Montpellier, Paris, and Rome; but beyond the reform it effected in the dialectic of the schools, its influence has been inconsiderable, notwithstanding the attempt made by the unfortunate Giordano Bruno 3 centuries later to revive and improve it. One of the most remarkable facts connected with Lully's history is the industry and enthusiasm with which, in the midst of a restless and anxious life, he devoted himself to literary pursuits. It is impossible to enumerate all his works, but they are said to have been more than one man could transcribe in the course of an ordinary life, having for their object the demonstration, by the *ars Lulliana*, of all the primary truths of religion, and embracing in their scope the physical and metaphysical sciences, and to a certain extent the doctrines of the alchemists, who claim Lully as one of their adepts. He has been variously regarded as a sainted martyr and champion of the church, a heretic, a philosopher surpassing Aristotle, or a shallow empiric. Of his zeal for the recognition and adoption of his "art," and his iron resolution in attempting to overcome the obstacles which never ceased to beset him, there can be no doubt; although to the chivalric ardor of the crusader he united the pedantry of the schoolman, and the mystical exaltation of one inspired to the severe and methodical habits of thought of the logician. He had more erudition than judgment, and his system of metaphysics, though founded on that of Aristotle, was so interwoven with mystical fancies, that the apparent regularity of his formulas ill conceals the incoherency of his ideas. He wrote in a barbarous style, which repels the reader. An edition of his works in 10 volumes, edited by Salzinger, was published at Mentz in 1721-'42.

LUMBAGO. See RHEUMATISM.

LUMP FISH, or **LUMP SUCKER,** a name given to several spiny-rayed fishes of the family *discoboli*. The position of this family has been the subject of considerable difference of opinion among naturalists. Swainson placed them in the order *apodes* with the eels and lampreys; Cuvier ranked them among malacopterygians with the cod and sole; J. Müller properly restored them to the acanthopterygians, but, from the union of their ventrals into a disk, established for them, with the gobioids, the family *cyclopodi*, separating *eleotris*. Prof. Agassiz places the *discoboli* with the mailed-

cheeked fishes, in the neighborhood of the sculpins, separating them entirely from the gobioids. The best known genera of the lump fishes (*discoboli* and *gobiesocidae* of ichthyologists) are *cyclopterus* (Linn.), *liparis* (Artedi), *lepadogaster* (Gouan), and *gobiesox* (Lacép.). In the genus *cyclopterus* the body is thick and high, without scales, covered with a mucous skin with a few osseous points over its surface; the teeth are small and sharp, on the jaws and pharyngeals; the mouth large; gill covers small, and their openings closed below; branchiostegous rays 6; the pectorals very large, extending under the throat, and embracing the concave disk formed by the united ventrals, by means of which they adhere to rocks and other objects; the skeleton is mostly cartilaginous; the stomach large with numerous pyloric appendages, the intestine long and the air bladder moderate.—The common lump fish (*C. lumpus*, Linn.), found on both sides of the Atlantic, varies from 8 to 20 inches in length, and may attain a weight of 18 lbs.; its appearance is grotesque and forbidding, its form being clumsy, its skin slimy, its flesh flabby, and its fins comparatively small. The first dorsal fin is rather a fleshy ridge just behind the head, with simple rays; the 2d dorsal, with branching rays, is about opposite the anal; beside the scattered tubercles there are 3 distinct rows proceeding backward respectively from the eye, posterior angle of operculum, and ventral disk. The color is bluish slate above with blackish spots, and yellowish below. The fish is common from the shores of Scotland to the coast of Greenland; notwithstanding its unwholesome look, its flesh is esteemed as food by the northern Europeans. It is not uncommonly thrown up on our beaches during storms, and is occasionally caught by the hook when fishing for cod, but it is not eaten with us. By means of the ventral disk it can attach itself very firmly to objects; it is voracious, feeding principally on young fish; it spawns about May, just before which the colors are brilliant, with tints of blue, purple, and orange. Several other species occur in the vicinity of Greenland, described by Richardson in the *Fauna Boreali-Americana*.—The genus *liparis* differs from the preceding in having a more elongated body, compressed posteriorly, and a single long dorsal with a corresponding anal fin. The unctuous lump fish, or sea snail (*L. communis*, Art.), from 6 to 18 inches long, brownish above with darker stripes, and yellowish white below, is often caught on the shores of Scotland, where it adheres to stones in the small pools left by the receding tide; it feeds on aquatic insects, mollusks, and small fishes; it occurs also on the coasts of Greenland, where other species are found.—In the genus *lepadogaster* the pectorals are very large, descending below the throat, supported by 4 firm rays at the lower part on each side, and united around an oval disk in front of the concave disk formed by the ventrals; there are apparently 2 pairs

of pectorals and 2 pairs of ventrals, but one pair of each are mere folds of skin and not true fins; the membranous fold of the 2d pectorals contains fibrous rays, and is attached to the shoulder bone, and the membranous ventral fold to the styloid or pubic bone, which structural peculiarities, in the opinion of Agassiz, render necessary the separation of this genus and its allies into a distinct family. The body of the Cornish lump sucker (*L. Gouani*, Lacép.) is smooth, with a single dorsal fin opposite the anal and near the caudal; branchiostegal rays 5; no pyloric appendages; the length is only 8 or 4 inches, and the general tint pale flesh color, with carmine spots and patches. There are other species, all remarkable for their powers of adhesion, which enable them to resist strong currents and the action of the waves, and possibly to attach themselves to various objects, or even to fish, for purposes of locomotion, like the remora or sucking fish; they are sluggish in their habits, and delight to hide beneath stones near low water mark; their food consists of crustaceans and marine worms, which they swallow entire; they are very tenacious of life, on account of the small openings from the gills; they have no air bladder. An allied genus is *gobiesox*, in which the pectorals and ventrals form only one diak; the dorsal and anal are short, and separated from the caudal. The toothed lump fish (*G. dentex*, Lacép.), from the Cape of Good Hope, may be known by the strong teeth in the front of the jaws; it is several inches long, and of a scarlet red color.—Other genera are mentioned by Müller, and Agassiz has recently established the new ones of *crossognathus* (from specimens from Charleston, S. C.), *lobognathus* (from Peru), and *ptychocheilus* (from Puget sound).

LUMPKIN, a N. co. of Ga., drained by Chetatee and Etowah rivers and their branches; area, 700 sq. m.; pop. in 1859, 5,490, of whom 504 were slaves. A range of the Blue Ridge crosses its N. border. The surface is generally hilly, and the soil near the rivers highly productive. The county contains a great number of gold mines, which are the richest in the Atlantic region, and copper, silver, magnetic iron, and lead are also found. The productions in 1850 were 242,717 bushels of wheat, 42,110 of sweet potatoes, 16,037 lbs. of rice, and 14 bales of cotton. There were 34 churches, and 1,245 scholars attending schools. Value of land in 1856, \$723,011. Capital, Dahlonega.

LUMPKIN. I. WILSON, an American statesman, born in Pittsylvania co., Va., Jan. 14, 1783. Early in 1784 his father removed to that part of Georgia now known as Oglethorpe county, and in 1797 was appointed clerk of the superior court there, and the son became an assistant in his office. This position gave him opportunities for self-improvement, of which he availed himself, devoting all his leisure moments to the study of law. He had scarcely reached the age of 21 when he was elected to represent his county in the legislature, and was subse-

quently reelected a number of times. He was twice elected governor of the state, in 1831 and 1833. In 1823 he was appointed by President Monroe to mark out the boundary line between Georgia and Florida; and by President Jackson he was appointed one of the first commissioners under the Cherokee treaty of 1835. He was one of the original members of the board of public works, created by the state legislature. He served in the U. S. house of representatives from 1815 to 1817, and from 1827 to 1831, and in the U. S. senate from 1838 to 1841. Of late years Gov. Lumpkin has retired from public life. He now (1860) resides at Athens, Ga. II. JOSEPH HENRY, an American lawyer and jurist, brother of the preceding, born in Oglethorpe co., Ga., Dec. 23, 1799. At an early age he entered the university of Georgia, but after the death of President Finley he went to Princeton, N. J., where he was graduated. In 1820 he was admitted to the bar, and commenced practice at Lexington in his native county, where he soon gained eminence in the profession. In 1844 he retired from the bar on account of ill health, and shortly afterward visited Europe. While abroad his friends presented his name for one of the judgeships of the supreme court, then newly established; in 1845 he was elected one of its first justices, and has continued to hold the office, amid all political changes, until the present time. He has had but little to do with party politics, having held but one political position in his life—that of representative of his native county in the state legislature. As a judge he holds a high position. At the bar he was chiefly distinguished as an advocate in criminal causes, and his extraordinary appeals to the sympathies of jurors are yet the subject of conversation among those who had opportunities of hearing him. He is a prominent advocate of the temperance cause. In 1846 he was elected to the chair of rhetoric and oratory in the university of Georgia, which he declined. He now holds the chief professorship in the Lumpkin law school at Athens, in connection with the state university, of which institution he has been a trustee since 1854.

LUNACY. "A lunatic," says Blackstone, "is one that hath had understanding, but by disease, grief, or other accident hath lost the use of his reason; he is indeed properly one that hath lucid intervals, sometimes enjoying his senses and sometimes not, and that frequently depending upon the change of the moon." The common belief in a connection between the accessions of madness and the phases of the moon was long ago exploded, and in medical science lunacy has been displaced by the better terms insanity and mental alienation. In the law, some text writers, following Sir Edward Coke, have preferred *non compos mentis* as a generic phrase comprehensively descriptive of the various conditions of mental disease or fatuity. "Of unsound mind" has been also much employed in legal language to express

certain forms of derangement. But lunacy, though absurd in itself, and in its proper acceptation referring to but a single phase of insanity, has yet gained a more conspicuous place in legal practice than any other term. Statutes, both English and American, have expressly declared that lunatic shall apply to all persons of unsound mind, and to those who are incapable of managing their affairs; and in England the name includes idiots also. Lunacy may then be fitly employed as a title under which to present the legal relations of insanity. Its medical and scientific aspects are treated under other heads. (See *INSANITY*, and *MEDICAL JURISPRUDENCE*.) Here we concern ourselves only with the settled rules of law, which determine the legal status of insane persons.—In England the custody of lunatics and idiots is vested in the court of chancery, not in its character of a court of equity, but as the delegate of the crown, the representative of the *parens patriæ*; for it is the duty of the sovereign to take care of those of his subjects who cannot take care of themselves. In the United States the people have succeeded to the rights and prerogatives of the crown, and therefore it is that here the legislature exercises a protective authority over idiots and lunatics. The statutes of the different states provide that such persons may be put under guardianship; and if a competent judicature have found the fact of lunacy in the prescribed mode, and have appointed a guardian, the fact of lunacy is held to be conclusively proved. Until the contrary be shown, either upon an inquisition of lunacy, or upon special testimony in a given case, every man is presumed to be of sane mind. But if it be proved or admitted that lunacy existed at a particular period, and that the derangement was of a habitual and not of a merely temporary or accidental nature, then it is presumed to continue, unless its continuance be disproved. Thus, in the case of a will, the burden of proving a testator's insanity rests ordinarily on him who impeaches the instrument for this cause. Yet, on the other hand, proof of general and usual insanity may be rebutted by evidence that the act was done during a lucid interval, and the burden of proving this rests on the party who asserts the exception. Moral insanity alone, that is, mere derangement of the moral faculties, does not invalidate a will. The evidence must show a delusion in matters of fact. A higher degree of insanity must be shown, in order to absolve from criminal guilt, than to discharge from civil obligation. In all cases the jury must be instructed that every man is to be presumed to be sane, and to possess a sufficient degree of reason to be responsible for his crimes, until the contrary be proved to their satisfaction; and that to establish a defence on the ground of insanity, it must be clearly proved that at the time of the commission of the act, the party accused was laboring under such a defect of reason from disease of the mind as not to know the nature and quality

of the act he was doing; or if he did know it, that he did not know he was doing what was wrong. These were the rules laid down by the judges in *McNaghten's case* before the house of lords. In *Rogers's case* in Massachusetts, Chief Justice Shaw instructed the jury that in case of partial insanity the party must have sufficient power of memory to recollect the relation in which he stands to others, and in which others stand to him; and to know that the act he is doing is contrary to the plain dictates of justice and right, injurious to others, and a violation of duty. But, on the contrary, if he still understands the nature of his act and its consequences, if he has a knowledge that it is wrong and criminal, and mental power sufficient to apply that knowledge to his own case, and to know that if he does the act he will do wrong and receive punishment, the partial insanity is not sufficient to exempt him from responsibility for criminal acts. If it be found that the mind of the accused was in a diseased and unsound state, the question will be whether the disease existed to so high a degree that for the time being it overwhelmed all reason, conscience, and judgment, and whether the person in committing the crime acted from an irresistible and uncontrollable impulse. If so, then the act was not the act of a voluntary agent, but the involuntary act of the body without the concurrence of a mind directing it.—In respect to the proof of insanity, the weight of authority is, that such a defence must be substantially proved as an independent fact, and the burden of proof is of course on the defendant. In Massachusetts the defence is made out if the preponderance of evidence is in favor of the prisoner's insanity. Evidence of acts, declarations, and conduct, both before and after the time when the alleged crime was committed, is admissible as tending to show insanity at the moment of the act. Evidence of hereditary insanity is also admissible, both in civil and criminal cases.—Whatever be the nature or degree of mental disease, if the mind be so much impaired as to be incapable of intelligent disposal in the ordinary affairs of life, it is in civil jurisprudence irresponsible for its acts. He whose mind is so far overshadowed possesses no longer a disposing and consenting will. He is therefore incapable of making contracts, for a contract requires a concurrence of wills. When then one of the parties to a contract of marriage lacks the capacity of consent, there is no mutually binding promise, and the marriage is void. Whether, in a given case, such a disability existed as to render contract impossible, is generally declared, and the nullity of the marriage pronounced by competent judicial authority. But though the contracts of an insane man are necessarily void, he has not always been permitted to repudiate them. Until the time of Edward III. no objection seems to have been made to such a proceeding. Afterward the absurd maxim grew into a rule, recognized by the most eminent legal authorities, that no man

should be permitted to stultify himself. The strictness of the rule was gradually relaxed; not at first on the ground that lunacy was a defence in itself, but that it was competent evidence to show that undue advantage had been taken of a party, or that actual fraud had been practised upon him, by reason of his imbecility. This rule is now abandoned, and if one enters into a contract while he is deprived of reason he may avoid it when he recovers his sanity. Yet the exception is admitted that one may not plead his lunacy to annul his contract for necessities made with him in good faith by the other party; nor if, in fact, no advantage were taken of the lunatic, can a purchase made in good faith be rescinded, if injustice would thus be wrought to the other party, and both cannot be placed *in statu quo*.—A testament discloses the will of the testator; but when a disposing will fails, a testament is impossible, and the writing which purports to be one is a nullity. It is naturally very difficult to prove the existence of a lucid interval, far more difficult than to prove the existence of general insanity. It is sufficient for the purposes of the law that the mind appears to have been rational when the will was made. Indeed, the will itself may furnish strong, perhaps the best evidence of the lucid interval. If testimony can be adduced to show that the act was done without any assistance, and the writing itself discloses no marks of delusion or folly, no further proof can generally at least be required.—It has been already stated that the same degree of incapacity which invalidates civil acts, does not exempt from criminal responsibility. When insanity is pleaded to a charge of crime, the real question which the law entertains is: Was there a criminal intent; was the accused capable of that criminal will which is the essence of the offence? From the nature of the case the law has found it difficult to answer these questions; and perhaps it has not always answered them well. The doctrine of Sir Matthew Hale has exerted a large influence on the course of English decisions. He was disposed to determine the criminal responsibility of a mind affected with insanity by its strength and capacity; and said: "Such a person as, while laboring under melancholy distempers, hath yet ordinarily as great understanding as usually a child of 14 years old hath, is such a person as may be guilty of treason or felony." But such a rude test could not be permitted when juster views of mental disease had come to prevail among scientific men; and accordingly we find the nicety of the test a little advanced when the inquiry became whether the accused had so far lost the use of his understanding as not to know right from wrong. With the single qualification that this test should be applied to the particular act committed, this criterion has been long in use, with only slight and immaterial variations, in the English criminal law. It was laid down in Bellingham's case, by Sir James Mansfield, in 1812. In that case the

court went to what is now considered an extreme length, and instructed the jury that if a person affected by that species of insanity in which the patient fancies the existence of injury and seeks an opportunity of gratifying his revenge by some hostile act, be yet capable in other respects of distinguishing right from wrong, this would be no excuse for any act of violence which he might commit under this species of derangement. So Baron Rolfe, in the case of the queen against Stokes in 1848 (and he was quoted and followed by Baron Parke in Barton's case in the same year), said the subject had been lately carefully considered by the judges, and the law was now clear; every man is responsible for his acts by the law of his country if he can discern right from wrong. In the trial of Pate (1850) for an assault upon the queen, in which an uncontrollable impulse was urged in defence, Baron Alderson said in summing up: "It is not because a man is insane that he is unpunishable; and I must say that upon this point there exists a very grievous delusion in the minds of medical men. The only species of insanity which excuses a man for his acts is that species of delusion which induced to, and drove him to the commission of the act alleged against him. The jury ought to have clear proof of a formed disease of the mind; a disease existing before the act was done, and which made the accused incapable of knowing at the time that it was a wrong act which he was about to commit. The law does not acknowledge the doctrine of an uncontrollable impulse, if the person was aware that the act which he contemplated was wrong. The question you have to decide is: Was the accused at the time suffering from a disease of the mind which rendered him incapable of judging whether the act he committed was a right or a wrong act?" In one class of cases the test of responsibility is therefore to be, whether the prisoner knew that the act which he committed was wrong, and right and wrong in these cases are probably to be understood as Lord Brougham explained them in *McNaghten's case*, viz.: right must be understood of right according to the law, and wrong of an act condemned and punishable by law.—Another class of cases is that in which responsibility is modified by the existence of delusion. This form of insanity was first brought before and recognized by the courts in the celebrated case of *Hatfield* in 1800. In that case the prisoner was put upon his trial for firing at the king. Mr. Erskine defended him successfully, and procured the acquiescence of the court in his views of the irresponsibility of the accused. *Hatfield* labored under the delusion that it was his duty to sacrifice himself for his fellow men, and he conceived that the best mode to draw upon himself the punishment of death was to make an attempt upon the life of his sovereign. It was not denied that *Hatfield* knew right from wrong, and that the act which he contemplated was punishable

by the law; indeed, it was just that which he did know and directly contemplated; yet so powerful was his delusion, that the act which it prompted could not be said to proceed from the motion of his own free will. So clearly and forcibly did Mr. Erskine present the grounds of the defence, that the court, Lord Kenyon, advised the withdrawal of the prosecution, and the argument of the eminent counsel became a precedent and authority in the law. This same plea of delusion was successfully urged for Martin, who set fire to the minster of York, in obedience, as he said, to the command of Heaven. In 1843 the English law upon this matter was set forth in the case of *McNaghten* by the judges in the house of lords. This opinion, emanating as it does from the highest authority and pronounced upon deliberation, deserves great respect. The judges say that if there be only a partial delusion, and the party is not in other respects insane, he must be considered in the same situation as to responsibility as if the facts with respect to which the delusion exists were real. For example, if, under the influence of such a delusive idea, one supposes another to be in the act of attempting to take his life, and he kills that other, as he supposes in self-defence, then he would be exempt from punishment. But if the delusion were that the deceased had inflicted a serious injury upon his character and fortune, and he therefore killed him in revenge, then the aggressor must be held guilty. It was also the opinion of the judges that, notwithstanding a party accused did an act which was in itself criminal under the influence of insane delusion, with a view of producing some public benefit, or of redressing some supposed wrong, yet he was responsible if he knew that he was acting contrary to the law of the land. In Massachusetts, in the well known case of *Rogers*, which has been approved in other states, delusion was admitted to be a legal test of insanity. It was there held that if a party under a real and firm though insane belief do an act which would be justifiable if the imaginary fact existed, then he is not responsible.—The tests already considered, namely, the consciousness of right and wrong and delusion, apply to the intellectual faculties alone. But the moral faculties, not less than the intellectual, may become deranged. Passions and propensities may be so extremely developed as to destroy the balance of the mind and defeat the supremacy of the will. This condition of mental disorder, moral insanity, as it is called, has received a partial recognition by the law. The nicer degrees of it, for which medical men contend, have not found so much favor in the eyes of the courts. When the claim of indulgence for this sort of mental infirmity has been plainly reasonable, it has however been admitted and favored. This has been the case in respect to that form of insanity known as homicidal mania. The perpetrator may be perfectly capable of distinguishing right from wrong, not only

abstractly, but also in reference to the particular act. Further, there may be, in fact generally, no delusion in respect to the victim. The act is the offspring of an uncontrollable impulse; the party knows the nature of the act which he is about to commit, but has not the power to choose otherwise than as he does; and because the will is not here concerned, the homicide is not answerable for his act.—So far then as adjudicated cases go, insanity is admitted as a good plea: 1, when at the commission of the act the offender was incapable of distinguishing whether it was right or wrong; 2, when the act was done under a delusion in respect to the existence of facts which, had they actually existed, would have constituted a good defence; and 3, if the act were committed under the influence of mental disease great enough to overpower the will, though neither delusion nor any like provocation of the act be discovered.

LUNAR CAUSTIC. See **NITRATE OF SILVER.**

LUND, a town of Sweden, in the laen of Malmö, on an extensive plain, about 8 m. from the Baltic, and 21 m. E. from Copenhagen; pop. 5,298. There are several tanneries and woollen manufactories in the town. The cathedral is a large irregular edifice, said to have been founded in the 11th century and enlarged at different periods. In size it is the third church in Sweden. Measures were recently taken to restore and complete it. There are two other churches. The object of interest at Lund is the university, the only one in Sweden except that at Upsal. It was founded in 1479, and has a library of 30,000 volumes, and several museums and collections of natural history and mineralogy. Pufendorf was professor of the law of nature and of nations in this university in 1670. Lund is a place of great antiquity, and in pagan times is said to have had 80,000 inhabitants. In the middle ages it was the seat of an archbishop who was considered the primate of the north, and the Scandinavian monarchs were formerly elected upon a hill about half a mile from the town. A great battle was fought here between the Danes and Swedes, Dec. 1, 1676, in which 10,000 men were killed. A treaty concluded here terminated the war 8 years later.

LUNDY, BENJAMIN, an American abolitionist, born in Handwich, Sussex co., N. J., Jan. 4, 1789, died in Lowell, La Salle co., Ill., Aug. 22, 1839. Both his parents were members of the society of Friends. Until 19 years of age he labored upon his father's farm, after which he removed to Wheeling, Va., where he remained 4 years, working the first 18 months as an apprentice to a saddler. At this place his attention was first directed to the subject of slavery. On leaving Wheeling he went to Mt. Pleasant, Ohio, where he remained two years. He subsequently settled in business in St. Clairsville, Va., where in 1815 he originated an anti-slavery association, called the "Union Humane

Society," and wrote an appeal on the subject of slavery. Soon after a journal entitled "The Philanthropist" was commenced at Mt. Pleasant, to which Lundy contributed. He then visited St. Louis, where he remained nearly two years engaged in a newspaper exposition of the slavery question. During this time he lost the few thousand dollars his previous industry had accumulated. Returning to Mt. Pleasant, he commenced, in Jan. 1812, the publication of the "Genius of Universal Emancipation," the office of which was soon removed to Jonesborough, Tenn., and thence to Baltimore in 1824. In 1825 he visited Hayti to make arrangements for the settlement of emancipated slaves. In 1828 he visited the eastern states, where he formed the acquaintance of a number of prominent abolitionists, one of whom, William Lloyd Garrison, afterward became associated with him in editing his journal. In 1828-'9 he was assaulted for an alleged libel, indirectly censured by the court, and soon afterward removed to Washington. In 1830-'31 he travelled in Canada and Texas to obtain subscribers to his paper, and to continue his observations on the condition of the blacks. He made a second trip to Texas in 1833, returned the following year, and immediately afterward undertook another journey to Texas and Mexico. He continued his literary connection with the "Genius of Universal Emancipation" as long as it was published, and was the first to establish anti-slavery periodicals and the delivery of anti-slavery lectures, and probably the first to induce the formation of societies for the encouragement of the produce of free labor. "The Life, Travels, and Opinions of Benjamin Lundy," by Thomas Earl, was published in Philadelphia in 1847.

LUNDY'S LANE, BATTLE OF, called also that of Bridgewater or Niagara, a severe engagement fought in Canada, near the falls of Niagara, between the British and American forces, July 25, 1814. Two days after the defeat of the British under Gen. Riall at Chippewa by Brig. Gen. Scott, July 5, 1814, the American forces under Gen. Brown, numbering about 3,000 men, crossed the Chippewa river and took post at Queenstown; Riall, after throwing a portion of his force into Fort George, retreating to a strong position near the head of Lake Ontario. Occasional skirmishes took place between the outposts of both armies; but Brown, finding that he had no battering cannon to besiege Fort George, and being unwilling to leave that fortress in his rear, fell back after a few days to the Chippewa. Here on the 25th he received intelligence that Gen. Drummond, who had reached Fort George with British reinforcements, had crossed the Niagara river at Queenstown to attack Fort Schlosser, where the American supplies were deposited. Scott was at once detached with 1,200 men to make a demonstration on Queenstown, and about sunset unexpectedly came up with Riall and his whole

force advantageously posted on an eminence at the head of Lundy's lane, and in the immediate vicinity of Niagara falls. Although greatly outnumbered, the American general determined to hold his ground if possible until the main body of the army under Brown could arrive upon the field, and at once commenced the offensive by sending Major Jessup with a battalion to turn the enemy's left. His small force in the mean time was compelled to sustain the full fire of the British infantry and of a battery of 7 pieces, consisting of 24-pounders and howitzers, which crowned the heights, and at every discharge made deep chasms in the American ranks. Animated by the courageous bearing and buoyant spirits of their commander, the regiments maintained their ground unflinchingly, and were presently cheered by the intelligence that Jessup had been completely successful in his manoeuvre, and had captured Gen. Riall and his whole staff, who were immediately sent to the rear. Soon but one American regiment, the 9th, remained in front, and this made feeble resistance against the British battery, now augmented, by the arrival of reinforcements under Drummond, to 9 pieces. The enemy, though numbering upward of 4,000 men, nevertheless refrained from charging Scott's exhausted battalions, which they might by the mere force of numbers have easily overpowered. At this critical moment the main body of the American army, which Brown, alarmed at the heavy and continued cannonade, had hurried forward without waiting for a message from Scott, arrived upon the field on a run, and Gen. Ripley's brigade at once went to the front, while the remnant of Scott's soldiers were formed in a single battalion in the rear. The evening was now far advanced, and notwithstanding the moon was shining in an unclouded sky, an almost complete darkness enveloped the field, broken only by the flashes from the British guns, and from the irregular discharges of musketry on either side. A pause presently ensued as each army prepared for a decisive blow, and Brown, gaining a partial view of the heights occupied by the British guns, as the clouds of smoke rolled away from the field, determined as the only chance of winning the battle to make an attempt to carry the battery. Turning to Col. Miller, he asked him if he could take it. "I'll try, sir," replied Miller, and, placing himself at the head of the 21st regiment, supported by the 23d under Major McFarland, he commenced the ascent of the hill. Guided by Scott, the column pressed swiftly and silently forward in close order, and had nearly reached the summit when their muffled tread announced their approach. At this moment a sheet of flame burst from the battery, and a fearful discharge of grape caused the 23d to recoil, while a second discharge drove them in disorder down the hill. But the 21st never faltered. Closing up their ranks after every volley, they held their course unswervingly until within musket shot of the battery, when, pouring in a volley,

they charged with a shout, bayoneted the artillerymen at their guns, and after a fierce struggle drove the enemy in confusion down the hill. The 28d, which had rallied under McFarland, arrived at this juncture, followed by the remainder of Ripley's brigade, and the Americans prepared to maintain the hill so heroically won. Soon the British column was heard ascending the slope, and after a volley from both sides a desperate hand-to-hand fight was maintained for 20 minutes around the captured guns, resulting in the complete discomfiture of the British, who fled precipitately under cover of the darkness. After the lapse of half an hour they returned, but were again driven down the hill, Scott with his battalion charging them effectually in the flank. Scarcely an officer now remained unwounded in the American ranks, and the men, faint with their exertions and tormented by thirst, were ready to sink with exhaustion. Unwilling, however, to relinquish the field, they replenished their ammunition from the cartridge boxes of their fallen comrades and foes, who covered the ground around the battery, and then calmly awaited the return of the British. After an hour's pause the latter, reinforced by fresh troops from Fort George, advanced under Gen. Drummond to the third and last assault. The conflict which ensued was more deadly than ever; for half an hour the hill seemed one blaze of fire, and friend and foe were mingled in almost inextricable confusion. At length the enemy, broken and foiled at all points, retired for the third time, and "a profound silence ensued, interrupted only by the groans of the wounded and dying, and the monotonous roar of the great waterfall, moaning, as it were, over this fatal scene of fraternal strife and military glory." Brown and Scott being now disabled by wounds, the command devolved upon Ripley, who, finding the enemy indisposed to renew the attack, drew off his troops to the camp. The captured guns, owing to the want of horses and the exhausted state of the men, could not be removed from the field, and when a detachment was sent back to secure them it was found that the hill had been reoccupied by the British. In this battle, the most obstinately contested perhaps ever fought upon the American continent, the British force, beside greatly outnumbering their opponents, had the advantages of position and preparation. Against these odds the troops of Brown fought with a valor and obstinacy unparalleled in the war, and which did much to disabuse the country of the idea, then prevalent, that American troops could not cope with the trained veterans of Europe. According to the official accounts, the Americans lost in killed and wounded 743 men, and the British 878. Ripley, finding his forces reduced to less than 2,000 effective men, retired to the neighborhood of Fort Erie, having first destroyed the bridge over the Chippewa and a portion of his stores.

LÜNEBURG, a province of Hanover, bound-

ed N. by the Elbe (which separates it from Hamburg, Holstein, Lauenburg, and partly from Mecklenburg), E. by the Prussian provinces of Brandenburg and Saxony, S. by Brunswick and Hildesheim, and W. by the province of Calenberg; area, 4,800 sq. m.; pop. in 1858, 358,701. The highest land between the two principal rivers, the Elbe and the Aller, is the Lüneburg heath, a very desolate spot. The other parts of the province are also mostly covered with heath, turf, moors, and forests, chiefly of fir. Along the river banks there is some fertile marsh land, but the corn raised is not sufficient for consumption. Flax and turnips are largely cultivated, and also to some extent hops, potatoes, and vegetables, but very little fruit. The breeding of cattle yields better returns than the tillage of the soil; sheep abound, and the breed of horses is much improving. Timber for building and fuel abounds in the forests. Gypsum is found in many places, in the vicinity of saline springs. The chief means of subsistence of the inhabitants are afforded by the forests, and by bilberries, juniper berries, and cranberries, of which large quantities are exported. The heath is so well adapted to the breeding of bees, that thousands of beehives are sent to Lüneburg from other parts of the country. The manufactures are confined to yarn, linen, hosiery, and wooden carvings. Lüneburg was in ancient times an allodium of the house of Brunswick. In 1285 it became a duchy, together with Brunswick. Afterward it formed a distinct principality, and eventually was allotted to Hanover.—LÜNEBURG, the capital, is situated on the Ilmenau, 82½ m. by railway N. N. E. from Hanover, and 24½ m. S. E. from Harburg; pop. 18,000. It retains the aspect of antiquity, and contains a town hall (*Rath-Haus*), noted for its fine relics and works of art. There are manufactories of sugar, salt, tobacco, &c. Nearly 70,000 horses are annually brought to the market.

LUNENBURG, a S. E. co. of Va., bounded N. by the Nottoway and S. by the Meherrin river; area, 410 sq. m.; pop. in 1850, 11,692, of whom 7,187 were slaves. The surface is generally level and the soil moderately fertile. The productions in 1850 were 49,960 bushels of wheat, 240,065 of Indian corn, 2,284,668 lbs. of tobacco, and 15,689 of wool. There were 7 grist mills, 6 saw mills, 3 tanneries, 20 churches, and 450 pupils attending public schools. Capital, Lewistown.

LUNÉVILLE, a city of France, capital of an arrondissement of the same name, in the department of Meurthe (Lorraine), situated on the right bank of the Meurthe, near its junction with the Vezouse, 240 m. by railway E. from Paris, 73 m. W. from Strasbourg, and 20 m. S. E. from Nancy; pop. in 1856, 11,969; of the commune, 15,801; and of the arrondissement, 83,614. Lunéville contains the largest cavalry barracks (accommodating over 6,000 horses) and the finest riding school in France. Vast bodies of cavalry are frequently collected there in

the autumn, when military exercises are practised. Under Louis XIII. it was taken from the house of Lorraine by the French. A treaty of peace was signed there, Feb. 9, 1801, between the German empire and France.

LUNGS, in man and in most of the vertebrated animals, the principal organs of respiration. The thoracic cavity (the chest) is chiefly filled up by the lungs and the heart. There are two lungs, one in the left, the other in the right side of the chest. Between them are placed the heart, the great blood vessels that spring from this organ, the œsophagus, the thoracic duct, &c. The left lung is smaller than the other. The two lungs are united together by the branches of the trachea, which is a large tube in continuation with the larynx. The lungs are a mass of ramified tubes, branches of the trachea, through the walls of which all the blood of the body passes to receive oxygen and to give away carbonic acid. In all air-breathing vertebrata, the atmospheric air reaches the larynx through the nasal and the buccal cavities, then passes into the trachea, and into its ramifications which are called *bronchi* or bronchial tubes, and from these tubes into membranous pouches named *alveoli*. The lung substance is composed of the alveoli, the air sacs, the small bronchi, blood and lymphatic vessels and nerves; the whole enclosed in a membrane that surrounds each of the lungs and is known as the *pleura*. Before giving a description of the intimate structure of the lungs, we will say a few words of the trachea and large bronchi.—The trachea, or windpipe, extends from the lower part of the larynx, of which it is the continuation, to the middle of the thorax, where it divides into the two large bronchi. It is situated in the middle line of the body, in front of the last cervical and the first 5 or 6 dorsal vertebrae. According to most anatomists, the branching of the trachea takes place at the level of the 8d dorsal vertebra; but Dr. Waters affirms that the spot where the branching is usually found is at the lower border of the 5th or the middle of the 6th dorsal vertebra. The length of the trachea is about 4 or 5 inches. The average transversal diameter of this tube is between 9 and 12 lines in adults. The anterior two thirds of the trachea is cylindrical, the posterior third is a flattened wall. In the neck the trachea is covered by the skin and a few flat muscles; in the chest it is placed between the two lungs and covered by muscles, lymphatic glands, and the bony and cutaneous walls of the thorax. The structure of the trachea is complicated. This tube is essentially composed of an internal layer which is a mucous membrane and an external one which is fibrous. Imbedded in these membranes are from 16 to 20 cartilaginous pieces, with the shape of a horse shoe, or of a ring one third of which is missing. These incomplete rings are placed transversely at nearly equal distances one from the other; they give to the anterior two thirds of the trachea the cylindrical form.

They keep the trachea widely opened, which of course would not be the case if this tube was simply membranous. In the back part of the trachea, between the extremities of the cartilaginous rings, there are transversal muscular fibres of the unstriated variety. The fibrous tissue found in the trachea belongs to the two varieties of yellow elastic and white fibres. The mucous membrane is a thin one, in perfect continuity with that of the larynx and that of the bronchi. Its most remarkable feature is that its epithelial covering is composed of ciliated cells presenting the vibratile movement in a high degree. A great many mucous glands exist all along the trachea, especially upon its back part. The bronchi, or rather the large bronchi, are the two ramifications of the trachea, from which they spring at an obtuse angle, each of them going into the lung of the corresponding side. The cartilaginous rings, the muscular tissue, the fibrous layer, the mucous membrane, &c., of the bronchi very much resemble the same parts of the trachea in shape and structure.—The lungs are united with the heart and with the trachea by a part called the root, which, in each side, is composed of the large bronchus, a branch of the pulmonary artery, two pulmonary veins, and smaller vessels and nerves, the whole being almost completely covered by the pleura. Each lung is divided into lobes, 2 in number in the left one and 3 in the other. The weight of the lungs varies much according to age and sex. In adult men the two lungs weigh from 40 to 50 ounces, and in women from 28 to 35 ounces. The ratio of the weight of the lungs to that of the body is as 1 to 30 or 40. The specific gravity of the lungs is very alight, and, unless the air has been expelled from the cavities of the bronchial tubes and of the alveoli, any part of the lungs dipped into water will rise and float. Each lobe of the lungs is divided into lobules, which are arranged on the bronchial tubes like grapes on a bunch. Each lobule is surrounded by condensed areolar tissue mixed up with yellow elastic tissue. Each lobule is a fair representation, on a small scale, of a whole lung, as it hangs upon a bronchial tube, a branch of the pulmonary artery, branches of bronchial vessels, and nerves. In the roots of the lungs the two large bronchi divide, the right into 3, and the left into 2 bronchial tubes, one for each of the pulmonary lobes. The primary bronchial tubes are very short, and divide into 2 or 3 smaller tubes, each of which gives off 2 or 3 divisions. Before reaching their termination, the tubes branch off 4 or 5 times more. Usually the branching of each tube, whether primary, secondary, or tertiary, &c., is only into 2 divisions, sometimes into 3, and more rarely into 4 or 5. The terminal twig of a bronchial tube is a small canal, in which are found many openings or orifices of very short tubes, which are the ultimate ramifications of the tube. At the sides and extremities of these ramifications, as also at the further point of the terminal twig, to which they are appended, honeycombed

cavities are found which are known as air vesicles, or air cells. These cells are the essential parts of the lungs; it is in them that the function of respiration is performed. We owe the best description of the air cells to Dr. A. T. H. Waters, who calls them air sacs. According to him, they consist of somewhat elongated cavities, which communicate with a bronchial ramification by a circular opening, which is usually smaller than the cavity of the sac. The air sacs are arranged in groups, and separated from each other by thin walls. Many small, shallow, cup-like depressions, separated from each other by portions of membrane, are found at the bottom and on the lateral walls of the air sacs. These small cavities have been called alveoli by Rossignol. The alveoli have no communication with each other, except by their opening in the cavity of the air sac. Dr. Waters has lately confirmed the observation of most preceding anatomists, that an epithelial layer exists in the air sacs and the alveoli. In adults the diameter of the ultimate bronchial tube varies from $\frac{1}{4}$ to $\frac{1}{5}$ of an inch; that of the air sac, from $\frac{1}{8}$ to $\frac{1}{10}$; and that of the alveoli, from $\frac{1}{16}$ to $\frac{1}{32}$.—The lungs receive two kinds of blood vessels, one kind starting from the right side, the other from the left side of the heart. The pulmonary artery and its branches convey to the air sacs the blood that has come from every part of the body into the right auricle. The pulmonary veins convey back from the air sacs, into the left auricle of the heart, the blood that has taken the oxygen of the air and given off carbonic acid in the cavity of the alveoli. Another kind of blood vessels coming from the aorta (the bronchial arteries) convey blood from the left side of the heart to the various tissues of the lungs to serve for their nutrition. The bronchial veins bring back to the right auricle the blood that has served for the nutrition of the bronchial tubes. As the organs of respiration the lungs receive, through the pulmonary artery, all the blood of the body, which returns to the heart by the pulmonary veins; like every other organ of the body, the lungs receive from the aorta the blood that is to serve for their nutrition. The lungs are extremely rich in lymphatic vessels, but the lymphatic glands seem not to exist in their structure; many of these glands are found round the roots of these organs. Two kinds of nerves supply the lungs with their ramifications, which are very numerous, the sympathetic and the pneumogastric.—The function of the lungs is obvious from their structure; it is respiration. The structure is admirably fitted for this purpose, as it essentially consists in an immense number of small air chambers or sacs at the termination of small tubes, which all communicate with the atmospheric air through the bronchial tubes and the larynx; and as, on another side, the blood vessels conveying the blood to be submitted to respiration are distributed on the very thin membranes of the alveoli, so that the interchange of gases, which

constitutes respiration, can easily take place by endosmosis and exosmosis. (For other details on the anatomy and physiology of the lungs, see BLOOD, CIRCULATION, HEART, and RESPIRATION.)—Most of the diseases of the lungs are treated under specific heads, as ASTHMA, BRONCHITIS, CONSUMPTION, EMPHYSEMA, HÆMOPTYSIS, EDEMA, PLEURISY, PNEUMONIA; and we now have to notice some of rarer occurrence. Pulmonary apoplexy is practically always a result of heart disease, and especially of disease of the mitral orifice. Cancer sometimes attacks the lungs; most commonly this is secondary to the same disease occurring in some other organ. Primary cancer is exceedingly rare, is recognized with difficulty, and is uninfluenced by any known treatment.—In GANGRENE OF THE LUNG a portion of the lung tissue dies, giving rise to a peculiar gangrenous fetor of the breath and expectoration. The disease may be either circumscribed or diffuse. In the first case the gangrenous portion of the lung is more limited in extent, and is separated by a sharply defined line from the surrounding tissue; several of these gangrenous patches, isolated from each other, may exist in the same lung. In diffuse gangrene no line of demarcation exists, and the gangrene is apt to be much more extensive, involving the greater part of a lobe, or even the greater part of the whole lung. On examination after death, the affected portion of the lung is found either reduced to a gangrenous detritus, or soft, infiltrated, easily torn, discolored, and exhaling an intensely gangrenous odor. The attack is often first announced by the peculiar odor of the breath; cough supervenes, attended with expectorations of a dirty gray, brown, green, or blackish color. Sometimes hæmoptysis, particularly in children, is present. The patient loses flesh, the strength rapidly fails, the pulse becomes frequent and feeble, and the patient sinks, often dying of suffocation. On physical examination early in the disease, often nothing can be discovered, or only a mucous rhonchus confined to one portion of the lung; afterward more or less dulness on percussion is found over the same spot, with bronchial respiration mixed with the fine crepitant rhonchus of pneumonia; finally the signs of a cavity become evident. Gangrene of the lung has been attributed to inflammation of that organ; but the symptoms seem to indicate that gangrene is the primary disease, and pneumonia but a consequence. The disease is commonly fatal, though in the circumscribed form of gangrene patients sometimes recover. In the treatment, camphor and opium have been found of service, but our efforts must be mainly confined to maintaining the strength of the patient by tonics and a nutritious diet. In the homœopathic practice arsenic is relied on.

LUNT, GEORGE, an American lawyer, author, and journalist, born in Newburyport, Mass. He was graduated at Harvard college in 1824, studied law, and commenced practice in his native town. While preparing for the bar he was prin-

cial of the Newburyport high school. He resided for some years in Newburyport, being several times a member of the state legislature, both as a representative and senator. He began to write and publish poetry at an early age. A small volume of his poems appeared in 1839, and was followed in 1843 by another entitled "The Age of Gold." In 1845 he delivered a poem before the Boston mercantile library association called "Culture," which was afterward published. In 1848 he removed to Boston, and in the following year was appointed by President Taylor U. S. district attorney for Massachusetts, and held the office till March, 1853. He has since published a volume of poems entitled "The Dove and the Eagle" (1851); "Lyric Poems" (1854); "Julia" (1855); "Eastford, or Household Sketches" (a novel), under the pseudonym of Westley Brooke (1855); and "Three Eras of New England, and other Writings" (1857). Since March, 1857, Mr. Lunt has been an editor of the "Boston Courier," a conservative journal. His latest publication was a small volume, comprising four articles which originally appeared in the above named journal, entitled "Radicalism in Religion, Philosophy, and Social Life" (1858).

LUPEROALIA, the ancient Roman festival of purification and expiation, celebrated annually on Feb. 15 (whence the name of the month, from *Februa*, another name for the festival), in honor of Luperus (surnamed Februa, from *februum*, a purgation), the god of fertility. The appropriate sacrifices were goats and dogs, after the offering of which two patrician youths were led forward to the altar, and one of the priests touched their foreheads with a sword dipped in the blood of the victims; another immediately washed off the stain with wool and milk. The priests next partook of a banquet, at which they were plentifully supplied with wine. This over, they cut the skins of the goats that had been sacrificed into pieces, with some of which they covered parts of their bodies, in imitation of Luperus, who was represented half naked, and half clad in goat skins; with the other pieces, cut into thongs, they ran through the streets, striking every person whom they met, especially females, who courted the flagellation from an opinion that it averted sterility and the pangs of parturition. Antony, on the day when he offered Cæsar the diadem, was officiating as a priest of Luperus. The ceremonies of this festival are supposed to have symbolized the purification of the people. The order of the Luperci, said to have been instituted by Romulus and Remus, formed a college of which none could originally be members save the noblest patrician youths. This college at first consisted of two classes, styled the Fabiani and Quinctiliani, to which Cæsar added a third named Juliani; and hence the two former classes are termed by later writers *Luperci veteres*.

LUPINE, the common name of a great number of beautiful plants, which are either annuals, perennials, or in some instances of a subshrubby character, natives of Europe, of the

countries around the Mediterranean sea, of the mountainous regions of the tropics, and of the temperate portions of North and South America. In Persoon's "Synopsis" (Paris, 1807) 20 species are enumerated. In Don's "History of the Dichlamydeous Plants" (London, 1832) 62 species are mentioned. There are figures of 66 species and varieties in the different botanical works quoted by Pritzl in his *Iconum Botanicarum Index* (Berlin, 1854). Torrey and Gray, in their "Flora of North American Plants," describe no fewer than 45 as belonging to North America. Several others are cited in Dr. Torrey's description of the botanical collections of the "Exploration, &c., for the Pacific Railroad" (vol. iv., 1856), and by Prof. Gray in his account of a collection of plants made chiefly in the vicinity of Santa Fé, New Mexico, by Augustus Fendler. The lupines are mostly sought after as handsome garden flowers, although the yellow lupine (*L. luteus*) and the white lupine (*L. albus*) are used as articles of food in the south of Italy, notwithstanding that the seeds are bitter; they are also eaten in Egypt, where they are called *embaben*, and are sold in the streets of Rome ready dressed. The seeds of *L. termis* are boiled for food by the Arabs, who also eat the raw peduncles (footstalks), after peeling them. The lupine seems wonderfully adapted to thin and poor soils, and to very barren places, which circumstance contradicts the presumed origin of the word lupine from *lupus*, wolf; as if wolf-like it exhausted and devoured the soil which supports it. Both Pliny and Columella tell us that crops of lupines were grown and afterward ploughed in by the ancient Romans, to make the soil better, as is the practice now in Tuscany and in the southern parts of France.—The most common lupine seen with us is the large annual species (*L. hirsutus*) from the south of Europe, having a tall, downy stem or stalk, and elegantly disposed, softly pubescent, many-parted leaves, large blue or rose-colored flowers, and large, flattened, concave-sided seeds. The field Peruvian lupine (*L. arvensis*, Bentham) is a half hardy perennial, growing from one to two feet high, with rich, lilac-blue and yellowish flowers, which appear in the autumn; it is increased by sowing the seeds, and it will grow in any good soil. A hardy perennial species from California is the broad-leaved lupine (*L. latifolius*, Agardh), with light purple flowers, and blooming from July to September, increased from seeds, or by division of its roots. Another from the same region is the parti-colored lupine (*L. varicolor*, Lindley), growing two feet high, with pink, purple, and white flowers, which appear in May and June. Its habit is decumbent, but it produces a great profusion of many-colored blossoms breathing a sweet perfume. The many-leaved lupine (*L. polyphyllus*) and its white variety (*L. p. albus*) are among the finest perennial sorts; and when, under cultivation, it is suffered to grow into a large clump, it will throw up a great quantity of spikes of ele-

gant blue or pure white flowers, attractive in a high degree. This is a common species at the mouth of the Columbia river and at Puget's sound. Several have yellow flowers, of which Menzies' lupine (*L. Menziesii*, Agardh), with verticillate flowers in a long spike, and the entire plant clothed with a silky pubescence, found by Douglass in California, may be mentioned. As far as the N. W. coast occurs a species (*L. Nootkatensis*, Don), and also a form of it in the Rocky mountains in lat. 55°, with flowers having a blue corolla variegated with red and yellow veins. Sabine's lupine (*L. Sabini*, Douglass) is said to be a very beautiful species, with a tall, striate, nearly glabrous stem, clothed with lanceolate leaflets silky on both sides, flowers verticillate in a dense, thick raceme, with yellow corollas; it is found on the Blue mountains in Oregon, and on the dividing ridge of the Rocky mountains near the confines of perpetual snow. Two species represent the genus more particularly, in the Atlantic states. One, found in the sandy barrens of North Carolina and Florida, is the *L. villosus* (Willd.), with unifoliate, large, densely silky tomentose leaves; very long linear-subulate stipules; flowers irregularly disposed in a long spike; handsome, bright, reddish purple corolla, which is deeply colored in the centre of the vexillum; legume very lanuginous, resembling a ball of silky wool enclosing 4 or 5 small variegated seeds. It grows in the driest sand. A species closely allied (*L. diffusus*, Nuttall) is reduced to a variety of this, the distinctions not being sufficiently specific. More widely diffused, and growing in light, sandy soil from Canada to Georgia, and at Behring's straits and on the shores of the Arctic sea (Richardson), is found the other species, known as the common wild lupine (*L. perennans*). Its stem is erect and somewhat hairy; its leaves are digitate, consisting of from 8 to 10 lanceolate wedge-shaped leaflets, arranged around the end of the petiole; its flowers, on a terminal spike, are blue, or sometimes rose-colored. The root is perennial, and throws up each successive season increasing flowering stems; it grows readily from the seeds. A natural patch of these charming plants overspreading a large area of sand, clothing the barren waste with beauty, cannot fail to attract the eye. Artificially propagated, the wild lupine succeeds best when raised from seeds, and in such cases blossoms in the 2d or 3d year. There are instances of varieties being met with having pure white flowers. The species having a shrubby stem is the tree lupine (*L. arboreus*, Sims), which will grow to the height of 6 feet. This species has been cultivated in England since 1796. Its flowers are of a pale yellow color and are fragrant. Mr. Nuttall conjectures that it may have been brought from California, the river lupine (*L. rivularis*, Lindley), having stems from 2 to 4 feet high, not being scarcely distinguishable from it, except in the color of its flowers (bluish lilac), and likewise found in California by Douglass and by Nuttall.

LUSATIA (Germ. *Lausitz*), an extensive region of Germany, now belonging in part to the kingdom of Saxony and in part to Prussia, but which formerly constituted the two margraviates of Upper and Lower Lusatia, the former being the southern division. They were bounded N. by Brandenburg, E. by Silesia, S. by Bohemia, and W. by the duchy of Meissen; area about 4,200 sq. m., of which the southern part is mostly mountainous, rich in timber, and picturesque, and the northern level and fertile. The inhabitants are Germans and Wends, the latter descendants of the ancient Slavic Luscii and Milzieni, and speaking a peculiar Slavio dialect. Lusatia was made tributary to the German empire in the earlier part of the 10th century by Henry I., and finally subdued and converted to Christianity by his successor Otho I. Its possession, however, was for many centuries an object of contention between the princes of Poland, Bohemia, Brandenburg, and Meissen. In the latter part of the 15th century it submitted to Matthias Corvinus, king of Hungary. After his death it was reannexed to Bohemia, with which it became subject to Ferdinand I. of Hapsburg, brother of the emperor Charles V., in 1526. Having revolted during the 30 years' war against the sway of Ferdinand II., it was subdued by John George, elector of Saxony, and ceded to him in 1635. By the treaty of Vienna of 1815 all Lower with a part of Upper Lusatia was ceded to Prussia, the former being annexed to the province of Brandenburg, and the latter to that of Silesia. The remaining part of Upper Lusatia forms the circle of Bautzen in Saxony. Görlitz, Luckau, and Guben are among the principal towns of Prussian Lusatia; Bautzen, Zittau, and Camenz, among those of the Saxon division.

LUSHINGTON, STEPHEN, an English statesman and jurist, born in London in 1783. He was graduated at All Souls' college, Oxford, of which he was for some time a fellow, and in 1806 was called to the bar at the Inner Temple. Two years later he was admitted an advocate at Doctors' Commons, and in the same year received the degree of D.C.L. at Oxford. He entered parliament in 1807, and during a lengthened legislative career, terminating in 1841, advocated the prominent measures emanating from the liberal party. At the same time he maintained a high reputation at the bar as a civilian, and was one of the counsel employed to defend Queen Caroline in the trial to which she was subjected after the introduction of the bill of pains and penalties against her. In 1828 he was appointed judge of the consistory court, and in 1838 judge of the high court of admiralty and a privy councillor, both of which latter offices he still holds. He is also chancellor of the dioceses of London and Rochester, and commissary of Westminster, Essex, and Herts, beside holding other minor offices.

LUSITANIA, the country of the people whom the Romans called the Lusitani, and in a wider sense the name of one of the 3 provinces

into which the Iberian peninsula was divided by Augustus. The Roman province occupied, like modern Portugal, the W. side of the peninsula, extending from Cape St. Vincent E. to the mouth of the Guadiana and N. to the Douro. It consequently did not include the N. provinces of Portugal, Entre Douro e Minho and Trás os Montes. Eastward in the interior it extended far beyond the boundaries of Portugal, embracing the N. part of the old Spanish province of Estremadura and the S. part of Leon. The country of the Lusitani, however, was much smaller than the province to which its name was given. In this sense Lusitania included only the region between the Tagus and the Douro, from the Atlantic on the W. to the present frontier of Portugal on the E. The province was anciently rich and fertile, and possessed valuable mines of gold and silver. Beside the Lusitanians, it contained several other tribes, of whom the most important were the Vettones, the Turduli Veteres, a branch of the Turdetani, and the Celtici, who were a remnant of the old Celtic population of the peninsula. The chief city of Lusitania was Olisipo, the modern Lisbon, which was always a place of importance, though the Romans made Emerita Augusta, the modern Merida, the capital of their province. The Lusitani, according to Strabo, were the greatest nation of the peninsula, and the one most frequently and longest at war with the Romans. They were a brave and turbulent race, and much addicted to brigandage, especially those who dwelt among the mountains. Under Viriathus they revolted, 153 B. C., and carried on for 14 years a gallant struggle against the Romans, who for a time were compelled to acknowledge their independence. Viriathus was finally assassinated by the Romans, and the subjugation of the Lusitanians was soon afterward effected.

LUSTRATION (Lat. *lustratio*, also *lustrum*), purification by sacrifices or other ceremonies. Originally ablution in water was the only rite observed by the Greeks, but afterward sacrifices, &c., were added. They were employed both to purify individuals, cities, fields, armies, or states, and to call down the blessing of the gods. The most celebrated lustration of Greece was that performed at Athens, in the days of Solon, by Epimenides of Crete, who purified that city from the defilement incurred by the Cylonian massacre. A general lustration of the whole Roman people took place every 5th year, before the censors went out of office. On that occasion the citizens assembled in the Campus Martius, and the sacrifices termed *suovetaurilia*, consisting of a sow, a sheep, and an ox, were offered up, after being carried thrice round the multitude. This ceremony, to which the name *lustrum* was particularly applied, is said to have been instituted by Servius Tullius in 566 B. C., and was celebrated for the last time at Rome in the reign of Vespasian. The term was also applied to the period which intervened between the *lustra*, and, as that period consisted of 5 years, later writers occasionally use the word

lustrum to designate that space of time generally. All Roman armies were lustrated before they commenced military operations. The Roman shepherd at the approach of night adorned his fold with branches and foliage, sprinkled his sheep with water, and offered incense and sacrifices to Pales, the tutelary divinity of shepherds. Whatever was used at a lustration was immediately after the ceremony cast into a river, or some place inaccessible to man, as it was deemed ominous for any one to tread on it.

LUTE, a musical stringed instrument of the guitar species, formerly in general use, but long superseded by the harp and guitar. In shape it is not unlike the section of a pear. It is played like the guitar, and the music was written in tablature, but in so careless a manner that it is difficult to translate it into modern notation. It is supposed to be of eastern origin, and has been ascribed to the Arabs.

LUTE, or **LUTING** (Lat. *lutum*, clay), a soft adhesive mixture used in chemical operations for making tight the joints of an apparatus. Its ingredients vary according to the kinds of vapors to be confined, and the temperatures to which it is to be exposed. Fire-brick clay finely pulverized and made into a paste with water withstands the highest degrees of heat, and makes tight joints when carefully applied and gradually dried and baked. Fibres of asbestos are advantageously intermixed with the clay. Fat lute is very generally used where the temperature is not excessively high, and where the vapors to be confined are corrosive. It is made of pipe clay worked to a soft and ductile paste with linseed oil. It must be applied to perfectly dry surfaces, and may be strengthened by binding over it slips of bladder. Common putty may often be substituted for it. Hydraulic lime and plaster of Paris make very useful lutes for many purposes, especially when rendered impervious by washing them over with oil, or a melted mixture of equal parts of wax and oil. Caustic lime thoroughly worked into the white of an egg, laid on slips of cloth and thus applied over the junctions to be luted, firmly adheres like a cement. White lead and oil laid on slips of cloth, and paste and paper, or glue and paper, and linseed meal made into a paste with water, milk, lime water, or weak glue, all serve as lutes for special operations.

LUTHER, MARTIN, the leader of the German reformation, born in Eisleben, now a town of Prussian Saxony, on St. Martin's eve, Nov. 10, 1483, died in the same place, Feb. 18, 1546. His father was a poor miner, but an industrious, energetic, and sensible man; his mother a plain and pious woman. "I am a peasant's son," he says in his characteristic style; "my father, my grandfather, and my forefathers were all genuine peasants. Afterward my father went to Mansfeld, and became an ore-digger. . . . My parents were at first right poor. My father was a poor miner, and my mother carried her wood on her shoulders; and after this sort they supported us, their children. They had a sharp, bitter

experience of it; no one would work so hard now." Subsequently, however, his father, by persevering labor, acquired a house and two furnaces at Mansfeld, whither he removed six months after Luther's birth, and left at his death about 1,000 florins in money. The reformer was brought up under pious but severe and rough discipline. At school he was once flogged 15 times in a single forenoon. He calls the German schools of those days purgatories, and the teachers tyrants and taskmasters. All this is characteristic of the harsh and rude spirit of the age, and accounts for the rugged vigor and want of polish in Luther's character. While at school in Mansfeld he had to beg his bread with his companions by singing from house to house in the neighboring villages. "It is God's way," he says, "of beggars to make men of power, just as he made the world of nothing." His condition was not materially improved at the Franciscan school at Magdeburg, where he spent one year. From there he was sent to the Latin school at Eisenach, his favorite town. At first he had still to beg his bread by singing hymns in the street, and felt at times so discouraged that he nearly gave up study altogether. But a liberal lady, Ursula Cotta, took the poor boy, who had engaged her sympathy by his musical talent and earnest devotion in church, to her house, dispelling the gloom from his mind, and supporting him till he was prepared to enter the university of Erfurt in 1501 at the age of 18. Here he studied with great zeal and success the Latin classics and the scholastic (Aristotelian) philosophy, and was graduated in 1505 as M.A. His moral conduct during all that time was unblemished. His father, who in the mean time was able to assist him, intended him for the legal profession. But the sudden death of an intimate friend in a duel, and his own narrow escape from death, first by a severe illness, and then by lightning, which struck with terrific force on the ground near his feet on the road between Erfurt and Stotterheim, so strongly excited his religious feelings and filled him with so vivid a sense of the vanity of the world, that he resolved to forsake the world, and entered the Augustinian convent at Erfurt, July 17, 1505. Here he subjected himself to the severest monastic discipline and the humble services of sweeper, porter, and beggar. His deep mental conflicts, penances, and mortifications of the flesh seriously undermined his health and brought him to the brink of despair. The ascetic exercises led him more and more to a knowledge of his own moral helplessness, and to the cross of Christ as the only source of justification and peace. In this process he was greatly assisted by the study of the Bible, complete copies of which he first found in the university library, and in the convent at Erfurt, by the writings of St. Augustine, his favorite among the fathers, the sermons of the German mystic Tauler, the commentaries of Nicholas de Lyra (hence the saying: *Si Lyra non lyrasset, Lutherus non saltasset*), and the advice of his fatherly friend John

Staupitz, a practical mystic, and superior of the Augustinian order in Germany. The cloister of Erfurt may therefore be called the birthplace of Lutheran Protestantism and of the evangelical doctrine of justification by faith without the works of the law. "God ordered," says Luther, "that I should become a monk, that, being taught by experience, I might take up my pen against the pope."—Here closes the first period in Luther's life, his training for the reformation. We now enter upon his public career, which is so intimately interwoven with the productive period of German Protestantism that a history of the former is a history of the latter from 1517 to 1580. After having spent 8 years in the convent and taken orders (1507), Luther was called in 1508, at the instance of Staupitz, as professor of scholastic philosophy to the university of Wittenberg, which had been founded a few years before by Frederic the Wise, elector of Saxony, the cautious patron of Luther and the reformation, and was destined soon to acquire a world-wide reputation. In 1512 he took the degree of D.D. He lectured on theology, especially the Psalms and the Epistles of Paul, his favorite apostle, freely expressed his dislike for the dry and stiff formalism of the prevailing scholasticism, and led the students from ecclesiastical tradition to the fresh fountains of the Scriptures, and to the evangelical system of his favorite St. Augustine. But he had no idea of being in conflict with the genuine spirit of Catholicity. On the contrary, when in 1510 he made a journey to Rome in the interest of his order, he devoutly ascended on his knees the *scala santa* opposite the church of St. John Lateran, although an inward voice, as he declares, repeated the passage: "The just shall live by faith." It required, however, only the proper external occasion to call out the reformation as it was fully prepared, not only in the mind of Luther, but for centuries past in the Latin church at large, both negatively and positively, by the anti-Catholic sects, the movements of Wycliffe in England, Huss in Bohemia, Savonarola in Italy, Wessel and many others in Holland and Germany. This occasion was the abuses attending the promulgation of an indulgence under the authority of Pope Leo X. to all who, beside fulfilling other conditions, should contribute money for the rebuilding of the cathedral of St. Peter at Rome. The person intrusted with the dispensation of these indulgences in Saxony was a Dominican monk named Tetzel, who seems to have discharged his functions in a manner which many devout Catholics regarded as profane. He went far beyond the received doctrine of the Roman canonists of the age, and made the granting of ecclesiastical remissions little if any better than an open sale. Against this profanation of holy things Luther raised a bold protest in the famous 95 Latin theses which he posted up on the doors of the Schlosskirche at Wittenberg, Oct. 31, 1517. He enclosed a copy of them to the archbishop of Magdeburg, beseeching that

prelate to put a stop to Tetzel's scandalous practices. These theses, although submitting the entire controversy to the decision of the pope, contained nevertheless the germ of the Protestant doctrines. They spread with the velocity of lightning through the press, now for the first time turned to account in a popular agitation, and kindled a fire throughout the entire Catholic world of Europe. A sharp controversy followed; the attempts of ecclesiastical diplomacy to compromise the difficulty through Cajetan and Miltitz failed; the Leipzig disputation (July, 1519) between Dr. Eck on the one hand, and Carlstadt and Luther on the other, soon rekindled the fire and widened the breach. Luther hurled several violent and most effective pamphlets against Rome, especially his address to the German nobility (1520), and henceforth he hated and abhorred the whole system of Roman Catholicism as an anti-Christian despotism that held the church of God in captivity and obstructed the access of the believer to Christ. Thus he was led step by step, against his original intention, to a complete emancipation from the system in which he was educated. In all this crusade he was encouraged and supported by his university, his prince, and a large amount of growing popular sympathies, especially in the north of Germany. Leo X. was disposed at first to treat the whole controversy lightly, as a mere monkish quarrel between the Augustinians and Dominicans; but he felt himself compelled at last to issue, June 20, 1520, the bull of excommunication against the dangerous German heretic, who by his pen had shaken the church and the empire to the very base. Luther, surrounded by his students and colleagues, committed the papal bull, together with the canon law and several books of Eck and Emser, to the flames (Dec. 10, 1520) before the Elster gate of Wittenberg, exclaiming: "As thou (the pope) hast troubled the Holy One of the Lord, may the eternal fire trouble and consume thee." (Comp. Josh. vii. 25.) This bold act was the fiery signal of an irrevocable separation from the Roman hierarchy. A few months afterward he was summoned, by the newly elected German emperor Charles V., before the diet of Worms; and in spite of the remonstrances of timid friends, he resolved to go, though "there were as many devils there as there are tiles on the roofs of the houses." On entering the city (where a magnificent monument to his memory is now (1860) in the course of erection), more than 2,000 persons accompanied him to his quarters. When confronted with the brilliant assembly of the emperor, the princes and nobles of the empire, the dignitaries of the church, and an immense concourse of spectators, and called upon to recant, he boldly defended his doctrines, and made the memorable declaration (April 18, 1521): "Unless I shall be refuted and convinced by testimonies of the Holy Scriptures, or by public, clear, and evident arguments and reasons, I cannot and will not retract any thing, since I believe neither the pope nor the councils alone

—both of them having evidently often erred and contradicted themselves—and since it is neither safe nor advisable to do any thing against the conscience. Here I stand, I cannot otherwise; God help me! Amen." Thus the Bible, his conscience, and private judgment were the three powers to which he appealed against tradition, the pope, and the councils. When the solitary monk entered the hall of the diet, Freundsberg, one of the ablest military commanders of the age, tapped him on the shoulder and justly said: "Monk, monk, thou art on a passage more perilous than any which I and many other commanders ever knew in the bloodiest battle fields. If thou art right, fear not; God will sustain thee." The diet subsequently pronounced the ban of the empire against Luther, and he was now an outlaw before church and state.—With Luther's appearance at Worms culminates his opposition to Rome, or the first and negative act of the reformation. The third period of Luther's life, which reaches from the diet of Worms (1521) to the diet of Augsburg (1530), embraces his positive labors in constructing and organizing the new church on the scriptural basis, in opposition not only to papal authority, but also to ultra Protestant radicalism and fanaticism. On his return to Wittenberg he was protected by the agents of Frederic the Wise, and lodged in the castle of the Wartburg, near Eisenach in Thuringia. In this romantic solitude, which he called his Patmos, he spent 10 months under the assumed name of "Knight George," hunting, praying, issuing tracts, and translating the New Testament, until the outbreak of serious disturbances among his own followers induced him to return to Wittenberg (March, 1522) in spite of the remonstrance of his prince. He preached a series of sermons in favor of order, authority, moderation, and charitable forbearance, and thus allayed the radical movement, headed by his older colleague, the earnest but fanatical Carlstadt, which threatened to defeat the cause of the reformation by turning it into a chaotic revolution. He took a similar conservative stand against the Anabaptists and the political ultra Protestantism in the peasant war, which rose like a dark pillar of smoke from the flame of the reformation, and ended in the more complete subjugation of the German peasantry by their temporal and spiritual masters. The cruel advice attributed to Luther to kill the rebellious peasants "without mercy like mad dogs" was at any rate executed, and the premature movement in favor of political freedom was quenched in 1524. Since that time Protestantism in Germany has been strongly conservative and monarchical in politics, while in Switzerland, France, Holland, and England it has favored and promoted political liberty. In the midst of these disturbances Luther suddenly married, in his 42d year (June, 1525), to the great surprise of his friends, an ex-nun, Catharina von Bora, in order "to please his father, to tease the pope, and to vex the devil." The marriage was upon

the whole a happy one. Luther speaks of his "Katy" as an obedient, pious, and good wife, whom he prized "above the kingdom of France, or the state of Venice." The most important labors of the reformer between 1521 and 1580 were his translation of the Bible, his sermons, hymns, and chorals for divine service in the vernacular tongue, his larger and shorter catechism, both of which acquired symbolical authority, and his efforts in behalf of common schools and popular education. He defended the establishment of such schools, partly by taxation, partly by the funds of the monasteries, with the strongest and clearest arguments derived from the duty of parents and of the state, the Bible, and the highest considerations of public virtue and religion. "It is a grave and serious thing," he says, "affecting the interests of the kingdom of Christ and of all the world, that we apply ourselves to the work of aiding and instructing the young. . . . Why else do we elder persons live, but to take care of the young, to teach and train them? It is not possible that giddy childhood should provide for its own instruction. Therefore God hath committed them to us who are old and have experience, and he will call us to a strict account. . . . This is not only the duty of parents, but also of the state and the church. How can reason and charity allow the youth to grow up uneducated to become a poison and pestilence, corrupting a whole town?" He regarded the office of a teacher, next to preaching, as the most important and useful vocation. "I am not quite sure which of the two is the better; for it is hard to reform old sinners, with whom the preacher has to do, while the young tree can be made to bend without breaking." It is necessary to add that he viewed domestic and public education always in close connection with religion and the church. In 1529 he attended the fruitless theological conference at Marburg to bring about a union between the Lutherans and Zwinglians, but declined the overtures of brotherhood made by the less rigid Swiss reformer, on account of the difference existing between them in their views on the Lord's supper. He claimed and exercised the full right of private judgment against bishops, popes, and general councils, but refused it to others who conscientiously differed from him, and had the same veneration for the Word of God as he. Born to rule and accustomed to lead opinion, he was impatient of contradiction, and overbearing in disposition. During the diet of Augsburg in 1530, where the "Augsburg Confession," the most important symbolical book of the Lutheran church, was composed by Melancthon and presented to the emperor, Luther remained at the castle of Coburg, watching the progress of events, and encouraging his timid and often desponding friend Melancthon.—The fourth and last part of Luther's life, from 1530 to 1546, is less important for the general course of the Protestant movement, which in the mean time had far outgrown its individual and sectional proportions,

and presents less biographical unity and interest to the general reader. He continued, however, his labors as professor, preacher, and writer, without interruption, and took a leading part in the public events of his country. In 1534 he completed the translation of the whole Bible, the work of 12 years. In 1536 he assented to a temporary agreement with the Swiss Protestants, but soon afterward renewed the sacramental war with great vehemence, and refused fellowship with all who denied his doctrine of the Lord's supper. In 1537 he drew up in a strongly anti-papal spirit the "Articles of Smalcald," intended for the often promised and long delayed general council. They were signed by the Lutheran princes and Melancthon (though with a qualifying clause by the latter), and became one of the symbolical books of the Lutheran church. He had no confidence in any compromise with Rome, and attended none of the conferences which vainly attempted to heal the great schism. In 1539 he committed the inexcusable mistake of giving his private though qualified consent to the disgraceful bigamy of Philip of Hesse. His latter years were frequently obscured by sickness, irritable temper, gloomy spirits, death of friends and relatives, dissatisfaction with public affairs, differences among his followers, and the warlike prospects of Germany. In Dec. 1544, he wrote to a friend: "I am worn out and discontented; that is, I am an old man and no more of any use. I have finished my course; there remaineth only that God gather me to my fathers and give my body to the worms." He complained bitterly of the rudeness, impiety, and immorality of his age, and thereby revealed the defect of his reformation, the want of congregational organization and moral discipline. In 1545 he was so dissatisfied with the people of Wittenberg on account of their luxury and vain amusements, that he left the town to spend the remainder of his days elsewhere; but at the entreaties of the elector and the university he returned. His last work was the completion of a commentary on Genesis, which he commenced in 1535 and concluded in Nov. 1545, with the words: "I am weak and can do no more. Pray God that he may grant me a peaceful and happy death." In Jan. 1546, he left Wittenberg with his three sons, John, Martin, and Paul, to settle a quarrel between the counts of Mansfeld and some of their subjects whom they wished to deprive of their furnaces. He reached Eisleben in poor health, preached four times, communed twice, ordained two priests, wrote serious and humorous letters to "the profoundly learned lady, Cath. Luth., his gracious housewife," and enjoyed the recollections of the place of his birth. His conversation in these days is said to have been unusually earnest, rich, and impressive. The last related to death, eternity, and the recognition of friends in heaven. On Feb. 17 he was seized with a painful pressure at the breast, and after fervent prayer and thrice repeating to his friends the inspired words (Ps. xxxi. 5): "Father, into

thy hands I commit my spirit; thou hast redeemed me, thou faithful God!" he quietly died with folded hands, between 2 and 3 o'clock in the morning of Feb. 18, 1546. His remains were removed in solemn procession to Wittenberg, and deposited in the castle church near the pulpit. Bugenhagen and Melancthon preached the funeral orations, and gave utterance to the universal grief of Protestant Germany over the departure of the Elijah of the reformation.—Luther's greatness is not that of a polished work of art, but of an alpine mountain with towering peaks, rough granite blocks, deep abysses, sweeping torrents, fresh fountains, and green meadows. Whatever he said and did, he said and did with all his might. His character is easily understood. Throughout his whole life he was an open-hearted, honest German. Dissimulation and cowardice were alike unknown to him. His virtues and faults lie on the surface, and we have nowhere to search for any secret or double motive in his conduct. He is the most faithful and original type of the German national character both in its strength and weakness. He was emphatically a man of the people, and to this day no other name carries such weight and authority with the masses in Protestant Germany, which reveres and loves him far more than Boniface, "the apostle of Germany." He had an extraordinary faculty of expressing the deepest thoughts in the plainest and most popular language, and many of his sayings have passed into proverbs. As a scholar and scientific divine he was inferior to Melancthon, and not to be compared with Calvin. He was no systematic thinker and logical reasoner, and his writings abound in paradoxes, inconsistencies, and contradictions. He always spoke out his first impressions and momentary convictions from the fulness of his mind and heart, regardless of consequences. Nor was he an organizing legislator and strict disciplinarian like Calvin. He contented himself with a reformation of the fundamental articles of faith, hoping that it would by its own force work out a reformation of conduct and public morals. He left the government of the church in the hands of the princes, who assumed and exercised the episcopal power. Some of his private habits, his love for wine and beer, his joviality and drollery, would have been regarded by the Geneva reformer as inconsistent with true Christian holiness; and the moral condition of the church of Wittenberg, when Luther left it in disgust in 1545, bears no comparison whatever with that of Geneva in 1564, which John Knox declared to be the most perfect school of Christ since the days of the apostles, and which afterward Valentine Andreæ held up to the Lutheran churches of Germany as a model for imitation. Luther never acquired a control over his violent temper and fierce passions. His wrath and indignation discharged itself in thunder and lightning; and in his controversial works against the Roman Catholics, the Sacramentarians, Henry VIII. of England, and Erasmus, he indulges

often in rude and vulgar invectives which no writer of the present day could use without losing the reputation of a gentleman. But we must take into account his want of refined training, the semi-barbarous character of his age, and the rough character of the work he had to perform. To use his own graphic language, he was "rough, boisterous, stormy, and altogether warlike, born to fight innumerable devils and monsters, to remove stumps and stones, to cut down thistles and thorns, and to clear the wild woods." And then it should always be remembered that beneath the strong armor of controversy Luther had a genial, kind, and generous heart. He never meant more than he said, and knew no revenge. A lion in public life, he was a lamb at home. He was eminently social in his disposition, a great lover of poetry and music, an affectionate husband and father. He liked to play with his children, and to gather with them in childlike joy around the Christmas tree. He wrote to his "Johnny" from Coburg in 1530, during the important proceedings of the diet at Augsburg: "Mercy and peace in Christ, my dear little son. I am glad to hear that you learn your lessons well and pray diligently. Go on, my child. When I come home I will bring you a pretty fairing. I know a very pretty, delightful garden, and in it there are a great many children, all dressed in little golden coats, picking up nice apples, and pears, and cherries, and plums, under the trees. And they sing and jump about, and are very merry; and beside they have got beautiful little horses, with golden bridles and silver saddles. The gardener told me: 'These are children who love to pray, to learn their lessons, and to obey.' Then I said: 'Dear sir, I have a little son called Johnny Luther; may he come into this garden too?' And the man said: 'If he loves to pray and learn his lessons, and is good, he may.'" In his letters to his wife and friends he lays open his whole heart, and gives free vent to his native wit, harmless humor, and childlike playfulness and drollery. His "Table Talk," though by no means all genuine, is one of the most interesting and entertaining of books, a singular mixture of the wildest paradoxes, conceits, superstitions, and freaks of fancy, with good sense, sound views, and excellent advice. Men of genuine humor are always serious at bottom, and often subject to mental gloom and melancholy. So was Luther, especially during his monastic life and his latter years. "The basis of his life," says Thomas Carlyle in his sketch of Luther in "Heroes and Hero Worship," "was sadness, earnestness. In his latter days, after all triumphs and victories, he expresses himself heartily weary of living; he considers that God alone can and will regulate the course things are taking, and that perhaps the day of judgment is not far. As for him, he longs for one thing: that God would release him from his labor and let him depart and be at rest. They understand little of the man who cite this in discredit of him! I will call this Luther a true

great man; great in intellect, in courage, affection, and integrity; one of our most lovable and precious men. . . . A right spiritual hero and prophet; once more a true son of nature and fact, for whom these centuries, and many that are to come yet, will be thankful to heaven." The controlling element in Luther's character and the motive power of all his writings and actions was his piety, his strong faith in God and unbounded enthusiasm for the gospel. He was emphatically a man of prayer, and lived in the Scriptures as few men ever did. In the doctrine of the church and the sacraments, and in matters of worship, outward organization, and usages, he adhered much more closely to the traditions of the Roman Catholic system than either Zwingli or Calvin; but in what constitutes the essence of Protestantism he was as decided as any of his fellow reformers. The absolute supremacy of God's word, and justification of free grace by faith alone, were the pillars of his theology and religion.—The works of Luther are partly in Latin, partly in German, and consist of sermons, commentaries on the Scriptures, especially on Genesis, the Psalms, and Galatians, polemical tracts against Roman Catholics, fanatics, Zwinglians, Erasmus, Henry VIII., &c., and a great many letters. He composed also a number of standard hymns and tunes, partly original, partly free versions and adaptations of Psalms and old Latin hymns; and he may be regarded as the founder of German church poetry and music, which is richer than that of any other nation. His most famous hymn is the *Ein' feste Burg ist unser Gott*, the war song of the reformation, written in 1529 on the basis of the 46th Psalm, and often rendered into English (by Carlyle, Mills, Miss Catharine Winkworth, Dr. Bunting, Massie, Heyl, and others). But his most important and useful work is his translation of the Bible, commenced in 1521, continued with the assistance of Melancthon, Bugenhagen (Pomeranus), and Cruciger, and completed in 1534. It threw all the previous German versions into entire forgetfulness, assisted immensely in the spread of the reformation, and in spite of its many obscurities and inaccuracies remains to this day in general use among the Protestant churches of the German tongue. It bears a similar relation to German literature to that which the common English version bears to English literature and church life. Though less accurate, it is a more gigantic work as to labor and perseverance, if we consider that it was made nearly a century earlier, almost single-handed, and without the aid of later grammars, dictionaries, and commentaries, while the English version is the product of the united labor not only of the 47 divines appointed by James I., but of three generations, as represented by Tyndale, Coverdale, Cranmer's Bible, the Geneva Bible, and the Bishops' Bible. Luther sometimes sat with his colleagues one and two weeks over a single obscure passage of the Hebrew Scriptures and the Latin Vulgate, and even employed butchers to dissect animals in his pres-

ence, that he might properly understand and accurately render the various sacrificial terms in the Levitical code.—We have 6 complete editions of Luther's works, of which the best are those of Walch (24 vols. 4to., Halle, 1740-'53) and Plochmann and Irmischer (68 vols. 8vo., Erlangen, 1826-'50). The latter gives the works in their original Latin or German, and adds all the writings which had appeared since Walch. The best and cheapest selection of his works, containing all his more important writings, with instructive introductions and notes, is the one edited by Dr. Otto von Gerlach (last ed., 24 vols., Berlin, 1859). Dr. Barnas Sears has published, with valuable philological notes, "Select Treatises of Luther," containing his first "Address to the German Nobility," his "Address in behalf of Common Schools," and his "Exposition of the 14th Chapter of St. John" (Andover, 1846), which may give the American reader a pretty good idea of the genius and style of the German reformer. The letters of Luther, which furnish the most authentic materials for an almost complete biography, were separately edited by Dr. De Wette (5 vols., Berlin, 1825-'8, to which a supplementary volume was added by Seidemann in 1856). The "Table Talk" was first collected by Aurfaber (1566), and then by Selneccer (1577). The best edition is by Förstemann and Bindseil (4 vols., Berlin, 1844-'8). Of the very numerous biographies of Luther we mention those by Melancthon, *Historia de Vita et Actis Lutheri* (1546); Mathesius, *Historia von Dr. M. Luther's Anfang, Lehre, Leben und Sterben* (1565); Selneccer (1575); Keil (1746); Ukert (1817); Stange (1885); G. Pfizer (1886); Jürgens (3 vols., 1846 *et seq.*), by far the most elaborate and learned of all, but not yet complete, reaching only from 1483 to 1517; Meurer (1850-'52), to a great extent in Luther's own words; König and Gelzer (1851; republished in New York, 1857, in the translation of Hare and Miss Winkworth). The French work of Audin, in 2 volumes (also translated into English), is written from a Roman Catholic point of view. The *Mémoires* by Michelet (Paris, 1857) are lively but superficial, and too much based upon the "Table Talk." The first volumes of Merle d'Aubigné's popular "History of the Reformation" are mostly occupied with Luther, and by their immense circulation have done more perhaps to spread a knowledge of his early life and labors in England and America than any other recent work. Of English and American writers, we must mention Thomas Carlyle, Coleridge, Archdeacon Hare (first in a very long note to his "Mission of the Comforter," afterward separately published), and Barnas Sears ("Life of Luther, with special reference to his Youth," American Sunday school union, Philadelphia, 1850), as those who have best understood and appreciated the character of the German reformer, and successfully vindicated him against the depreciating criticisms of Hallam, Sir William Hamilton, and several tractarian divines. Dr. Tulloch, also, in his "Leaders of the Reforma-

tion," republished in Boston (1859), gives a highly eulogistic sketch of Luther. The hymns of Luther have been translated by R. Massie, and in part also by H. Mills, in *Hora Germanica*, and Miss Catharine Winkworth in the two series of *Lyra Germanica*, republished in New York (1858). Of his commentaries, we have English translations of those on Genesis, the Epistle to the Galatians, and the first Epistle of St. Peter. But generally speaking the style of Luther, especially the German, is so thoroughly original, idiomatic, hearty, and characteristic, that it baffles the skill of the most experienced translators. Coleridge, in his "Table Talk," says: "Six volumes of translated selections from Luther's works, two being from his 'Letters,' would be a delightful work. The translator should be a man deeply imbued with his Bible, with the English writers from Henry VII. to Edward VI., the Scotch divines of the 16th century, and with the old racy German." In "The Friend" he calls this task not only difficult, but "scarcely possible for any man, however great his talents in other respects, whose favorite reading has not lain among the English writers from Edward VI. to Charles I."

LUTHERAN CHURCH. The Lutheran church has been known by various titles. Her own earliest preference was for the name "Evangelical" (1525), and many of her most devoted sons have insisted on giving her this name without any addition. At the diet of Spire (1529) her confessors received the name of Protestants, which continued to be the diplomatic style of the church till the peace of Westphalia (1648), and which to a large extent in European usage is still confined to the Lutherans. In Poland and Austria her official title is "Church of the Augsburg Confession." The name Lutheran was first used by Eck when he published the bull against Luther, and was applied to all who took part against the pope. Luther strongly disapproved of the name, and the church, while, to avoid the confusion which would arise if it was laid aside, she tolerates it, does so with a protest against the misapprehension the name might create, that she concedes to Luther any other position than that of a witness for the truth. As distinct on the one side from the Roman Catholic church, and on the other from the various Protestant bodies, she is known as the "Evangelical Lutheran Church." **I. DOCTRINE.** In the three general creeds and in the unaltered Augsburg Confession (1530) the Lutheran church has a bond of her distinctive life throughout the entire world. As a further development of her doctrines, the larger part of the church recognizes the confessional character of the "Apology for the Confession" (1580), the larger and smaller catechisms of Luther (1529), the Smalcald articles (1537), and the *Concordia Formula* (1577), all which were issued together in 1580, with a preface signed by 51 princes, and by the official representatives of 85 cities. The whole collection bore the title of the "Book of Concord." The funda-

mental doctrine of the Lutheran church is that we are justified before God, not through any merit of our own, but by his tender mercy, through faith in his Son. The depravity of man is total in its extent, and his will has no positive ability in the work of salvation, but has the negative ability of ceasing its resistance. Jesus Christ offered a proper vicarious and propitiatory sacrifice. Faith in Christ presupposes a true penitence. The renewed man co-works with the Spirit of God. Sanctification is progressive, and never reaches absolute perfection in this life. The Holy Spirit works through the Word and the sacraments, which alone, in the proper sense, are means of grace. Both the Word and the sacraments bring a positive grace which is offered to all who receive them outwardly, and which is actually imparted to all who have faith to embrace it. Luther, in consequence of his rigid training in the Augustinian theology, had maintained at an earlier period a particular election, a view which he gradually abandoned. The views of Arminius himself in regard to the five points were formed under Lutheran influences, and do not differ essentially from those of the Lutheran church; but on many points in the developed system now known as Arminianism, the Lutheran church has no affinity whatever with it, and on these points would sympathize far more with Calvinism. The "Form of Concord" touches the five points almost purely on their practical sides, and on them arrays itself against Calvinism rather by the negation of the inferences which result logically from that system than by express condemnation of its fundamental theory in its abstract form. In the United States the doctrinal test varies in strictness in different synods, from an *ex animo* subscription to the whole body of symbols, down to the mere declaration, after the somewhat vague formula recommended by the general synod, that the fundamental doctrines of the Word of God are taught in a manner substantially correct in the doctrinal articles of the Augsburg Confession. The Evangelical Lutheran church regards the Word of God, the canonical Scriptures, as the absolute and only law of faith and of life. Whatever is undefined by its letter or its spirit is the subject of Christian liberty, and pertains, not to the sphere of conscience, but to that of order; no power may enjoin upon the church as necessary what God has forbidden, or has passed by in silence, as none may forbid her to hold what God has enjoined upon her, or to practise what by his silence he has left to her freedom. Just as firmly as she holds upon the one hand that the Bible is the rule of faith, and not a confession of it, she holds on the other that the creed is a confession of faith and not the rule of it. The creeds are simply the testimony of the church to the truths she holds; but as it is the truth they confess, she of necessity regards those who reject the truth confessed in the creed, as rejecting the truth set forth in the Word. While, therefore, it is as true of the Lutheran church

as of any other that when she lays her hand upon the Bible she gives the command: "Believe!" and when she lays it on the confession, she puts the question: "Do you believe?" it is also true, that when a man replies "No" to the question, she considers him as thereby giving evidence that he has not obeyed the command. Very great misrepresentations have been made in regard to certain doctrines of the Evangelical Lutheran church, which it may be well to notice. No doctrine can be charged upon her as a church unless it is set forth in a confession to which she gives a universal recognition. The only creeds which have this attribute are the oecumenical creeds and the Augsburg Confession.

1. *Baptism.* The Lutheran church holds that it is necessary to salvation to be born again of water and of the Spirit (John iii. 5, and Augsburg Confession, arts. ii. and ix.); but she holds that this necessity is ordinary, not absolute, or without exception; that the contempt of the sacrament, not the want of it, condemns, and that though God binds us to the means, he does not bind his own mercy by them. From the time of Luther to the present hour the Lutheran theologians have maintained the salvability and actual salvation of infants dying unbaptized. The rest of the doctrine of the Lutheran church, as a whole, is involved in her confessing with the Nicene creed "one baptism for the remission of sins," and that through it the grace of God is offered; that children are to be baptized, and that being thus committed to God they are graciously received by him. At the same time she rejects the theory of the Anabaptists, that infants unbaptized have salvation because of their personal innocence, and maintains that the nature with which we are born requires a change, which must be wrought by the Spirit of God before we can enter heaven (A. C., arts. ix. and ii.), and that infants are saved by the application of Christ's redemptory work.

2. *Consubstantiation.* The charge that the Lutheran church holds this doctrine has been repeated times without number, although her theologians without a dissenting voice repudiate both the name and the thing, in whole and in every one of its parts. In the "Wittenberg Concord" (1536), prepared and signed by Luther and the other leaders in the church, it is said: "We deny the doctrine of transubstantiation, as we do also deny that the body and blood of Christ are locally included in the bread." The "Form of Concord" says: "We utterly reject and condemn the doctrine of a Capernaitish eating of the body of Christ, which after so many protestations on our part is maliciously imputed to us; the manducation is not a thing of the senses or of reason, but supernatural, mysterious, and incomprehensible. The presence of Christ in the supper is not of a physical nature, nor earthly, nor Capernaitish, and yet it is most true." It would not be difficult to produce ample testimony of the same kind from writers of other communions. Dr. Waterland, in his work on the doctrine of the eucharist, speaks thus:

"As to Lutherans and Calvinists, however widely they may appear to differ in words and names, yet their ideas seem all to centre in what I have mentioned. The Lutherans deny every article almost which they are commonly charged with by their adversaries. They disown assumption of the elements into the humanity of Christ, as likewise augmentation and impanation, yea, and consubstantiation and concomitancy; and if it be asked, at length, what they admit and abide by, it is a sacramental union, not a corporeal presence." D'Aubigné says: "The doctrines (on the Lord's supper) of Luther, Zwingli, and Calvin were considered in ancient times as different views of the same truth. If Luther had yielded (at Marburg), it might have been feared that the church would fall into the extreme of rationalism. . . . Taking Luther in his best moments, we behold merely an essential unity and a secondary diversity in the two parties." 8. *Ubiquity.* The Lutheran church holds that the essential attributes of the divine and of the human natures in Christ are inseparable from them, and that therefore the attributes of the one can never be the attributes of the other. But a large part of her greatest theologians hold also that as his human nature is taken into personal union with the divine, it is in consequence of that union rendered present through the divine, wherever the divine is; that is, that the human nature of Christ, which as to its finite presence is in heaven, is in another sense everywhere present. "Our church rejects and condemns the error that the human nature of Christ is locally expanded in all places of heaven and earth, or has become an infinite essence." ("Form of Concord," pp. 548, 695.) "If we speak of geometric locality and space, the humanity of Christ is not everywhere." "In its proper sense it can be said with truth, Christ is on earth or in his supper only according to his divine nature, to wit, in the sense that the humanity of Christ by its own nature cannot be except in one place, but has the majesty (of co-presence) only from the divinity." "When the word corporeal is used of the mode of presence, and is equivalent to local, we affirm that the body of Christ is in heaven and not on earth." "Of a local presence of the body of Christ in, with, or under the bread, there never was any controversy between the Lutherans and Calvinists; that local presence we expressly reject and condemn in all our writings. But a local absence does not prevent a sacramental presence, which is dependent on the communication of the divine majesty." (Colloq. Mompelgart., Tübingen, 1594.)

4. *The Lord's Day.* The Augsburg Confession touches on this subject only incidentally in connection with the question of church power. It teaches that the Jewish sabbath is abolished; that the necessity of observing the first day of the week rests not upon the supposition that such observance has in itself a justifying power, but on the religious wants of men. It teaches moreover that the Lord's day is of apostolic in-

stitution. The judgment of the great theologians of the church, almost without exception, has been that the sabbath was instituted at the creation of man; that the generic idea of devoting one day of the week to rest from labor and to religious duties pertains to the entire race through all time; and that the law of the sabbath, so far as it is not determinative and typical, is binding on Christians. ("The Lutheran Church and the Divine Obligation of the Lord's Day," by the Rev. O. P. Krauth, 1856.)—At times, especially in the early history of the Lutheran church, there arose controversies, the most important of which were: 1, the Philipistic, arising from the excessive desire of Melancthon and his school to harmonize with the Roman Catholics and the Reformed; 2, the antinomistic (1587-'40, 1556), caused by the effort of Agricola to introduce what has been called a "Pelagianism of the gospel;" 3, the Osiandrian (1550-'67), so called from Osiander, who confounded sanctification with justification; 4, the adiaphoristic (1548-'55), (see ADIAPHORA); 5, the Majoristic (1551-'52), on the necessity of good works; 6, the synergistic (1555-'67), on the co-operation of the human will in conversion, in the course of which Flacius spoke of original sin as substantial, not accidental; 7, the Crypto-Calvinistic (1552-'74). The view of Calvin in regard to the Lord's supper was so much profounder than that of Zwingli (which Calvin strongly condemned), and indeed in some aspects so Lutheranizing, that Melancthon, without abandoning the Lutheran view, thought that Calvin's might be tolerated, and the points of difference ignored in the confessions. This position was assailed by the stricter Lutherans. In the course of controversy the more general questions connected with the person of Christ were discussed. All these questions were settled in the "Form of Concord" (1577). So deeply was the church grounded in fundamental unity of faith, that none of these controversies, violent as some of them were, were able to rend it into denominational fragments. The subsequent controversies have been on syncretism (1655), pietism (1686), and rationalism (1751), and those connected with the union and the revival of Lutheranism (from 1817, Harms's *Theses*, to the present hour).—Many learned writers of different denominations have found nothing in the doctrines or usages of Lutherans to prevent a union between them and other Protestants. Claude, one of the greatest theologians of the French Reformed church, says: "Those of the Augsburg Confession (who are called Lutherans) are in difference with us only about the point of the real presence, and about some questions of the schools which we cannot yet impute to their whole body; and as for the rest, they reject with us the invocation of saints, religious worship of images, human satisfactions, indulgences, purgatory, worship of relics, the public service in an unknown tongue, the merit of good works, transubstantiation, the sacrifice of the mass, the supremacy of the pope, the opinion of the in-

fallibility of the church, and the principle of blind obedience to the decisions of councils. They acknowledge the Scriptures to be the only rule of faith; they carefully practise the reading of them; they own their sufficiency; they believe their authority, independent of that of the church; they distinctly explain the doctrine of justification, and that of the use of the law, and its distinction from the gospel; they do not conceive amiss of the nature of faith, and that of good works; and as for popular superstitions, we can scarce see any reign among them." ("Defence of the Reformation" 1673, translated by T. B., London, 1815, vol. i. p. 291.) II. DIVINE WORSHIP. The Lutheran church regards preaching as an indispensable part of divine service. All worship is to be in the vernacular; the wants of the heart as well as of the reason are to be met. Whatever of the past is spiritual, beautiful, and appropriate, is to be retained. The church year, with its great festivals, is kept. With various national diversities there is a substantial agreement in the liturgical services of the Lutheran church throughout almost all the world. The hymns are sung by all the people with the organ accompaniment. The clergymen in their official functions wear a distinctive dress, usually a black robe, with the bands. A preparatory service precedes communion. The doctrine and practice of auricular confession were rejected at the beginning. The "private confession," which was established in some parts of the church, involves no enumeration or confession of particular sins whatever, unless the communicant desires to speak of them; and the "private absolution" is simply the announcement of the gospel promise with the gospel conditions to the individual penitent. But even in this form private confession has either never been practised, or has ceased in most parts of the church. The practice of exorcism in baptism, simply as a rite long established, and which might be tolerated if regarded merely as a symbolical representation of the doctrine that our nature is under the dominion of sin, was practised in parts of the church, but has fallen almost everywhere into oblivion. Persons are received to the communion of the church by confirmation performed by the pastor. "The Lutheran church," says the Rev. Dr. Schaff, "draws the fine arts into the service of religion, and has produced a body of hymns and chorals, which, in richness, power, and unction, surpasses the hymnology of all other churches in the world." In the United States wider extremes in the mode of worship in the Lutheran church sometimes exist in a single locality, than can be found within her whole communion in other parts of the world. This diversity is deeply lamented, and earnest efforts are making to introduce greater uniformity of usage. III. CONSTITUTION OF THE CHURCH. Many embarrassing circumstances prevented the Lutheran church from developing her life as perfectly in her church constitution as in her doctrines and worship. The idea of the universal priesthood of

all believers at once overthrew the doctrine of a distinction of essence between clergy and laity. The ministry is not an order, but it is a divinely appointed office, to which men must be rightly called. No imparity exists by divine right; a hierarchical organization is unchristian, but a gradation (bishops, superintendents, provosts) may be observed, as a thing of human right only. The government by consistories has been very general. In Denmark Evangelical bishops took the place of the Roman Catholic prelates who were deposed. In Sweden the bishops embraced the reformation, and thus secured in that country an "apostolic succession" in the high church sense; though, on the principles of the Lutheran church, alike where she has as where she has not such a succession, it is not regarded as essential even to the order of the church. The ultimate source of power is in the congregations, that is, in the pastor and other officers and the people of the single communions. The right to choose a pastor belongs to the people, who may exercise it by direct vote, or delegate it to their representatives. Synods possess such powers as the congregations delegate to them. "Ministers are related to congregations, not as their servants, but as the servants of the church;" and even in the United States, where the congregational principle has been more radically developed than anywhere else in the Lutheran church, "the synod to which pastors belong has the entire jurisdiction over them." ("Formula of the Lutheran Church," ch. iii. 8.) In the United States there are 86 synods, 26 of which are connected with the general synod. Absolute ministerial parity is maintained, and lay representation is universal; but many vital points of church organization are entirely unsettled, and the doctrine that synods are "merely advisory bodies" is often pressed in a way that tends to anarchy. The constitutional powers of the general synod are very few; and the feeling is increasing that a stronger and more centralizing government is needed by the church.

IV. THEOLOGICAL SCIENCE flourished in the 16th century most of all in the universities of Wittenberg, Tübingen, Strasbourg, Marburg, and Jena. To this era belong Luther, Melancthon, Flacius, Chemnitz, Brentius, and Chyträus. In the 17th century occur the names of Glassius, Pfeiffer, Erasmus Schmidt, Hakspan, Geier, Seb. Schmidt, Calovius; in dogmatics, Hutter, Gerhard, Quenstedt, Calixtus, Hunnius; in church history, Rechenberg, Ittig, Sagittarius, Seckendorf, and Arnold. In the 18th century, Lösscher closes the ancient school, and the pietistic school, practical rather than scientific, is illustrated by Lange. The conservative pietistic, avoiding the faults of the others and combining their virtues, embraces Hollazius, Starck, Buddeus, Cyprian, J. C. Wolf, Weismann, Deyling, Carpzov, J. H. and C. B. Michaelis, J. G. Walch, Pfaff, Mosheim, Bengel, and Crusius. The school which treated theology after the philosophical method of Wolf numbers S. J. Baumgarten, Reinbeck, and Carpzov; to the

transitional school belong Ernesti, J. D. Michaelis, Semler, who prepared the way for rationalism, and Zöllner; the principal members of the rationalistic school were Griesbach, Koppe, J. G. Rosenmüller, Eichhorn, Gabler, Bertholdt, Henke, Spittler, Eberhard, and A. H. Niemeyer. Of the supranaturalistic school, abandoning the ancient orthodoxy in various degrees, but still maintaining more or less of the fundamentals of Christianity, are Morus, Döderlein, Seiler, Storr, Knapp, Reinhard, Lilienthal, and Köppen; and in church history, Schröckh, O. W. F. Walch, Stäudlin, and Planck. The founder of the Lutheran theology of the 19th century was Schleiermacher (died 1884), the greatest of the defenders of the union between the Lutheran and Reformed churches of Germany. (See UNITED EVANGELICAL CHURCH.) Neander may be classed as pietistic supranaturalist, De Wette as historico-critical rationalist, Hase as philosophico-aesthetic rationalist. The chief defenders of the vulgar rationalism are Röhr, Paulus, Wegscheider, Bretschneider, and Ammon; of historico-critical rationalism, Winer, Fritzsche, Credner, Schulz, Von Colln, Gesenius, Tuch, Knobel, Hupfeld, Hitzig, Ewald, Bertheau, and Lengerke. The rational supranaturalistic school is represented by Tzschirner, Tittmann, C. F. K. Rosenmüller, and Baumgarten-Crusius; supranaturalism proper, or suprarationalism, by E. G. Bengel, Flatt, Heubner, Augusti, Hahn, Böhmer; pietistic supranaturalism by Tholuck (who has approached more closely of late to a thoroughly Lutheran position), Hengstenberg, Olshausen, Stier, Hävernack, Steiger, and Bunsen in his early position, now a rationalist. The representatives of the "new" or "German" theology, of the school of Schleiermacher, of Lutheran origin, are Lücke, Nitzsch, Julius Müller, Ullmann, Twisten, Dorner, Liebner, and Martensen; also Rothe, I. T. Beck, Auberlen, Umbreit, Bleek, H. A. W. Meyer, Huther, Wieseler, and Tischendorf. The writers of the 19th century whose names we have given are or were within the "Union," and defenders of it, with a few exceptions. The representatives of the Lutheran theology, for the most part, in its strictest sense, are Claus Harms, who struck the first decisive blow at rationalism (1817), Scheibel, Sartorius, Rudelbach of Denmark (one of the most learned of the orthodox theologians of our time), Guericke, Harless, Höfling, Thomasius, Philippi, Harnack, Kahnis, Dieckhof, Löhe, Vilmar, Krabbe, Kliefoth, J. C. K. von Hoffmann (who departed from the received view of the atonement), Delitzsch (combining genius with great erudition), M. Baumgarten, Luthardt, Dreschler, Caspari, Oeliker, Keil, and J. H. Kurtz. Two distinguished jurists, K. F. Göschel and F. J. Stahl, are to be included among the defenders of the Lutheran confession. In the United States the energies of the best men of the church have been directed mainly into the channels of practical activity; yet there has nevertheless been an honorable exhibition of theological ability and learning. Among the most prominent living Lutheran theological writers

are S. S. Schmucker, one of the principal authors and defenders of the "eclectic or American Lutheran system;" O. Philip Krauth, who was the first president of Pennsylvania college, and among the earliest laborers in exciting an interest in German theology, and is the senior editor of the "Evangelical (quarterly) Review," for which he has furnished very valuable translations, and various original articles characterized by genial and ripe thought presented in a singularly unpretending form; and O. F. Schaeffer. B. Kurtz, Walther, Prof. M. L. Stöver, J. W. Mann, W. M. Reynolds, Lape, Van Alstine, Harkey, Oswald, and Anspach have written valuable practical works; and Strobel and Weiser have furnished popular history and biography. J. G. Morris has an extensive reputation as a translator and elaborator of some of the best German religious fictions, and as a successful occasional writer. O. W. Schaeffer is the author of the best history of early Lutheranism. Krotel has translated the "Life of Melancthon." J. A. Seiss, H. I. Schmidt, T. Stork, W. Passavant, and Bachman also deserve mention. V. EDUCATION. The early efforts of Luther in behalf of education (see COMMON SCHOOLS, vol. v. p. 551, and EDUCATION, vol. vi. p. 769) were continued by his successors through the means of catechetical instruction, congregational and public schools, and universities. There are no exclusively Reformed universities in Germany proper. The universities which the Lutheran church has in part or in whole may be classified as follows: 1, those in which the three confessions are represented—Tübingen, Giessen, Breslau, and Bonn; 2, the two confessions, Lutheran and Reformed—Heidelberg, Greifswalde, Marburg, Königsberg, Halle, Erlangen (the professors Lutheran with one exception), and Berlin; 3, exclusively Lutheran—Leipzig, Rostock (Wittenberg, transferred to Halle in 1817, now a seminary for candidates for the ministry), Jena, Kiel, and Göttingen; in Denmark, Copenhagen; in Norway, Ohristiania; in Sweden, Lund and Upsal; in Russia, Dorpat. In the United States the Lutheran church has 11 colleges, 7 theological seminaries, 10 academies, and 11 female seminaries; the periodicals are 7 English, 12 German, 1 Swedish, and 1 Norwegian. VI. EARLY MISSIONS. In 1559 Gustavus Vasa of Sweden founded a mission among the Laplanders, which was continued with renewed earnestness by Gustavus Adolphus, Denmark also aiding. Thomas von Westen (died 1727) was the apostle of this mission. Heyling of Lübeck, without any aid, labored as a missionary in Abyssinia (1635), and others, of the circle of his friends, engaged in the same cause in various parts of the East. Frederic IV. of Denmark established the East India mission at Tranquebar (1706), for which Francke furnished him two devoted laborers, Plätzschau and Ziegenbalg, the latter of whom translated the New Testament into Tamil (1715). The labors of this mission were also extended to the English possessions. From the orphan house at Halle

went forth a succession of missionaries, among whom Schwartz (died 1798) is preëminent. An institution for the conversion of the Jews was established at Halle in 1728. Egede (died 1758) of Norway commenced his labors in Greenland in 1721. In 1736 he returned, and established in Copenhagen a mission seminary. The idea of union in the practical work of religion among Christians of different creeds, originated with Urlsperger of Augsburg (1780).—The number of members of the Lutheran church throughout the world is estimated at more than 80,000,000, of whom 2,000,000 are found in Russia, 1,250,000 in Austria, 700,000 in France, and about 800,000 in America. They are most numerous, in proportion to the population, in the Scandinavian kingdoms and the states of Germany.

LÜTZEN, a town of Prussian Saxony, 9 m. S. E. from Merseburg; pop. 2,280. It is noted in history as the scene of the battle (Nov. 16, 1632) between Gustavus Adolphus and Wallenstein, in which the Swedish king lost his life, his army being victorious; and of another (May 2, 1813) between Napoleon and the allied Russians and Prussians, in which the allies after a temporary success were defeated with the loss of 15,000 men, but without sacrifice of guns or standards, while the French had about 17,000 killed and wounded and 900 taken prisoners.

LÜTZOW, LUDWIG ADOLF WILHELM, baron, a Prussian general, born May 18, 1782, died in Berlin, Dec. 6, 1834. He was celebrated as the leader of a corps of soldiers, chiefly composed of young noblemen, organized in 1813 against the French. It was called after him *Lützow'sches Freicorps*, and was more generally known under the name of the black huntsmen (*Schwarze Jäger*). Körner was a member of this corps, and one of his finest lyrics (*Lützow's wilde Jagd*) relates to it.

LÜTZOW, THERÈSE VON, a German authoress, born in Stuttgart, July 4, 1804, died in Java, Sept. 16, 1852. In the early part of her life she resided at Hamburg, where her father officiated as Russian *chargé d'affaires*. In 1825 she was married to the Russian consul-general Von Bacharach, after which she resided at Hamburg and St. Petersburg, and travelled extensively in Italy and the East. Having been separated from her first husband in 1849, she became the wife of the Dutch Col. von Lütow, whom she accompanied to the East Indies, where she died. She published, under the name of Therese, a number of works of travels and novels.

LUXEMBOURG, FRANÇOIS HENRI DE MONTMORENCY BOUTEVILLE, duc de Luxembourg-Pinell, a marshal of France, born in Paris, Jan. 8, 1628, died Jan. 4, 1695. He was the posthumous son of François de Montmorency, count de Bouteville, who was beheaded in the reign of Louis XIII. for fighting a duel. At an early age he was introduced at court by his cousin, the princess de Condé, and thenceforth attached himself to the fortunes of her illustrious son the great Condé, to whom in his per-

sonal qualities he bore considerable resemblance. Under Condé he first saw service at the siege of Lerida, and for his gallantry at the battle of Sens, although then but 20 years of age, he received from Anne of Austria the appointment of *maréchal-de-camp*. Throughout the war of the Fronde he adhered to his commander, with whom he joined the Spaniards and fought against his countrymen, until the peace of the Pyrénées restored tranquillity to France. About this time he was married to Madeleine, heiress and representative of the dukes of Luxembourg-Pinel, a title which he thereupon assumed. At the breaking out of war with Spain in 1667 he joined the army of Turenne as a volunteer, and in the succeeding year, in the capacity of lieutenant-general, aided Condé in the conquest of Franche-Comté. In the campaign of 1672 he held chief command in Holland, and at Grool, Deventer, Zwoll, and other places, showed himself a skilful general. The statement of the Dutch historians, that before taking the field he encouraged his troops to commit the grossest excesses, is deemed unworthy of credit, and is inconsistent with his character. For the destruction of public buildings and private property he is not responsible, having acted under positive orders from Louvois, the war minister of Louis XIV. He ended this campaign by a brilliant retreat with 16,000 men in the face of an army of 70,000. He fought under Condé at the battle of Senef in 1674, and in 1675, after the death of Turenne, was appointed a marshal of France. His first operations in this capacity were unfortunate, and to his failure to relieve Philippsburg was attributed the remark of his friend Condé, that "Luxembourg pronounced a better eulogium on Turenne than Mascaron or Fléchier." He however soon after captured Valenciennes and Cambray, aided in gaining the battle of Cassel, forced the prince of Orange to raise the siege of Charleroi, and, when surprised by the latter at St. Denis near Mons, while negotiations for peace were in progress, conducted his retreat with so much skill that he closed the campaign with an enhanced military reputation. The long peace which succeeded the treaty of Nimeguen gave an opportunity to his enemies at court, of whom Louvois was the most determined and unscrupulous, to bring him into disrepute. He was accused of participating in the infamous plots of Brinvilliers and Voisin, and of attempting to poison his own wife and other persons. To prove his innocence he voluntarily surrendered himself a prisoner at the Bastille, where he was confined for 14 months. Released in 1680 with an unspotted character, he was nevertheless forbidden to reside within 20 leagues of Paris. After 10 years of neglect and disgrace he was appointed by Louis to command the army destined for the invasion of Flanders, and in the campaign of 1690 defeated the prince of Waldeck at Fleurus. He was equally successful at Lutze and Steinkerke in 1692, and in 1693 defeated William III. of England in the battle of Neerwinden, at which so

many men were slaughtered on both sides that it was said in France the *De Profundis* should have been sung for the victory instead of the *Te Deum*. His last great military act was his retreat before a superior force through Flanders to Tournay. In Dec. 1694, he was attacked with a dangerous malady, and died after an illness of a few days, when in the zenith of his fame, and universally acknowledged to be the first general of his time in France. He was a man of simple manners, of a frank and generous disposition, and possessed the affection of his troops, with whom his relations were on an almost paternal footing.

LUXEMBURG (Fr. *Luxembourg*), a territory belonging partly to Belgium and partly to Holland, bounded N. by Liège, E. by Rhenish Prussia, S. by the French department of Moselle, S. W. by that of Ardennes, and W. by Namur; area, 2,550 sq. m.; pop. about 390,000. It is traversed by branches of the Ardennes highlands, and watered by the Meuse and Moselle and their affluents. It was originally called Lützelburg, and was governed for some generations by German princes, whose progenitor was Count Siegfried of the Ardennes. It subsequently became a possession of the counts of Limburg, one of whom assumed the name of count of Luxembourg. To this house belonged the emperors Henry VII., Charles IV., son of King John of Bohemia, Wenceslas, and Sigismund, in the 14th and 15th centuries, all of whom but the first also reigned in Bohemia. Charles IV. elevated Luxembourg to the rank of a duchy. Wenceslas gave it to his niece Elizabeth, who ceded it to Philip the Good of Burgundy. With Mary, the daughter of Charles the Bold, it came into the hands of Maximilian of Austria. Philip II. of Spain received it from his father, the emperor Charles V. By the peace of Utrecht in 1713 it was restored to Austria, and in 1795 it was conquered by France. In 1815, at the congress of Vienna, it was made a member of the German confederation, as a grand duchy, and the king of the Netherlands was selected as its ruler, under the title of grand duke of Luxembourg. In 1830 Luxembourg was divided between Belgium and Holland, but the latter retained little beyond the fortress of Luxembourg, until April 18, 1839, when a new treaty was signed in London, by which the territory was divided, and Belgium resigned a portion of Limburg, to be united with the part of the king of Holland, as a member of the German confederation. The territory abounds so much with woods and forests, that under the French administration it was appropriately called *département des Forêts*. Agriculture flourishes to some extent in the lower part of the country, and wine of an inferior quality is produced along the banks of the rivers.—The present Belgian province of Luxembourg comprises the arrondissements of Arlon, Bastogne, Marche, Neufchâteau, and Virton, including the old duchy of Bouillon; area, 1,700 sq. m.; pop. in 1857, 193,753. The great Lux-

emburg railway is now opened to Chimay, Rochefort, and Grufont (St. Hubert), and is rapidly advancing along the whole line to Arlon. The industry of Belgian Luxembourg comprises iron works, slate quarries, potteries, tanneries, cloth and paper mills. Capital, Arlon.—The present Dutch province, or grand duchy of Luxembourg, lies E. of the Belgian territory, and has an area of 850 sq. m.; pop. in 1859, 195,028. The king of Holland is by virtue of this possession a member of the German confederacy, has a vote in the diet, and furnishes for Luxembourg and Limburg a contingent of about 3,000 men to the federal army. The state of public affairs in the duchy for some time gave rise to serious complications, the German diet having authorized the king in 1839 to rule it according to the political principles which prevail in other parts of Holland, while the Luxemburgers demanded a more liberal form of government. Hassenpflug, the minister in Luxembourg, was at length compelled to resign in 1840. After the accession of King William II. some privileges were granted to the grand duchy (Oct. 12, 1841), and in 1842 it joined the German Zollverein. Until 1848, however, the country was agitated by political and religious strife, in which the Roman Catholic bishop Laurent took a conspicuous part. The revolution of 1848 put an end to this agitation, and introduced parliamentary government, which, however, has since been modified. The conflict between the liberal and the government party ended in 1858 in favor of the latter, and the royal civil list was raised in the same year from 100,000 to 200,000 francs. The inhabitants are chiefly Roman Catholics; the majority of them are Walloons, the rest mostly Germans. The principal exports are hemp, flax, game, timber, iron, leather, cheese, and some cloth.

LUXEMBURG, capital of the Dutch province or grand duchy of Luxembourg, situated in lat. 49° 37' N., long. 6° 9' E., on the Elze or Alzette, 76 m. N. N. E. from Liège; pop. about 12,000, beside the garrison. Its situation has been frequently compared with that of Jerusalem; it is completely surrounded by high escarped rocks. The upper town occupies a plateau, joined to the neighboring country only on the W. On the other 3 sides are precipices nearly 200 feet deep. Similar rocks rise opposite to these, enclosing a valley, in whose depths the lower town nestles. The communication between the upper and lower towns is by flights of steps, or by streets carried up in zigzags, so as to make them passable for carriages. The fortifications of Luxembourg give the town a remarkably picturesque appearance. They have been successively increased and improved by the Spaniards, Austrians, French, and Dutch, and entirely repaired and much strengthened since 1830 by the German diet. The most remarkable part of the fortifications is that called *Le Bouc*, a projecting headland of rock, hollowed out from top to bottom, and commanding with its loopholes and embrasures the valley up and down; its casemates are said

to resemble those of Gibraltar. Carnot declared Luxembourg to be "the strongest fortress in Europe, next to Gibraltar—the only point for an attack upon France from the direction of the Moselle." It is one of the principal fortresses of the German confederacy, and garrisoned by 6,000 Prussian troops. Luxembourg has a fine cathedral and other churches, and various public institutions. The industry is carried on in the lower town, where are many mills, dye works, and manufacturing establishments. An international bank with a capital of 40,000,000 francs was established there in 1856, and a railway to join the Belgian line at Arlon is contemplated. Diligences connect Luxembourg with Treves (Rhenish Prussia) and with Metz (France), and the journey to the latter city leads over some of the most favorite hunting and the wildest regions of the Ardennes.

LUXOR. See **THEBES**.

LUYNES, HONORÉ THÉODORE PAUL JOSEPH D'ALBERT, duke of, a French archæologist, born in Paris, Dec. 15, 1802. He is descended from the elder branch of the ancient family of Albert, which assumed alternately the names of Luynes and Chevreuse, from an intermarriage in 1621 of Claude de Lorraine, one of the early lords of the town of Chevreuse, with the widow of Charles d'Albert, duke of Luynes, the latter a constable of France, who was mainly instrumental in the overthrow of the adventurer Concini (see **ANORE**, **MARSHAL D'**), and superseded him in the favor of Louis XIII. Among the other noteworthy members of this family were the son of the preceding, eminent as a man of letters, and one of his descendants, Paul d'Albert de Luynes (born in 1703, died in 1788), who was a cardinal and archbishop of Sens, member of the French academy and of the academy of sciences, and a prelate highly esteemed in the Roman Catholic church. The father of the present duke was one of the richest landed proprietors of France. His mother was Mme. de Chevreuse (1785–1818), whom Napoleon I. banished from the court on account of her bold comments on the imperial régime. At the interposition of Talleyrand she was afterward permitted to return, and was even appointed lady in waiting to Josephine; but she did not conceal her dislike of the emperor, and refusing his order to escort the captive queen of Spain to France, upon the ground that she would not perform the function of a gaoler, she was again expelled from Paris, as were Mme. Récamier and Mme. de Staël. After the banishment of his mother, young Chevreuse, or De Luynes, as he afterward signed his name, was educated by his grandmother Mme. de Luynes, and spent 7 years in the military service. His attention was turned to archæological studies by the discovery of the remains of the Greek city Metapontum on an estate of his in Italy. After the revolution of July, 1830, he equipped at his own expense the national guard of Dampierre, and evinced his readiness to make further pecuniary sacrifices for the support of the govern-

ment, but refused to take his seat in the legislature. In 1848 he was a member of the constituent assembly, and in 1849 of the legislative assembly. He was opposed to the republican party, and also hostile to Louis Napoleon. He was imprisoned for a short time after the *coup d'état* of Dec. 2, 1851. He has collected at his manor of Dampierre a remarkable gallery of works of art, is a generous patron of art and artists, was admitted in 1830 to the institute as a free member of the academy of inscriptions and belles-lettres, and was appointed in 1854 to superintend the long projected catalogue of the imperial library. Among his principal works are: *Études numismatiques* (1835); *Métaponte* (in concert with Debaq, 1836); and *Choix de médailles Grecques* (1840).

LUZAC, JEAN, a Dutch philologist and publicist, born in Leyden in 1746, killed by an explosion of gunpowder in the port of Leyden in 1807. He was of a French Protestant family, was educated for the bar at the Hague, and in 1772 became one of the editors of the "Leyden Gazette," a journal of European reputation, controlled since 1738 by his father and uncle. For a number of years subsequent to 1775 he was its sole editor, in which capacity he became known as a friend or correspondent of Washington, Adams, Jefferson, and many eminent Europeans. He subsequently became Greek professor at the university of Leyden, and in 1795 published an address *De Socrate Cive*, dedicated to John Adams, whose son, John Quincy Adams, had studied under his direction. During the revolutionary troubles in Holland he was forbidden to lecture on Greek history to his classes; and having refused to obey this injunction, he was deprived of his professorship, which was however restored to him in 1803 with an increase of salary. Upon being suspended from his professional functions he received a letter from Washington, expressing sympathy in his behalf, and encouraging him to hope for justice. His *Lectioes Atticae*, a defence of Socrates, was published in 1809.

LUZERNE, a N. E. co. of Penn., intersected by the north branch of the Susquehanna river, and also drained by the Lackawanna, Nescopeck, Huntingdon, and Wapwallopen creeks; area, 1,427 sq. m.; pop. in 1850, 56,072. Its surface is mountainous, but diversified by many beautiful and fertile valleys, among which is that of Wyoming. Several ridges of the Alleghanies and the Wyoming and Moosic mountains traverse the county. It contains very rich and extensive coal fields. The productions in 1850 were 165,328 bushels of wheat, 290,122 of Indian corn, 287,797 of oats, and 49,872 lbs. of wool. There were 28 grist mills, 85 saw mills, 11 iron foundries, 2 woollen factories, 14 tanneries, 39 churches, and 6,815 pupils attending public schools. A branch of the state canal passes through the county, also the Delaware, Lackawanna, and western, the Pennsylvania coal company's, and the Lehigh and Susquehanna railroads. Capital, Wilkesbarre.

LUZERNE. See LUCERNE.

LUZON. See PHILIPPINE ISLANDS.

LUZULA, a pretty grass-like plant of the natural order *juncaceae*, growing in fields and on bare spots by the roads, as seen in the field *luzula* (*L. campestris*, De Candolle), introduced through cultivation from Europe. Its leaves are lance-linear, ciliate with long hairs; its flowers are borne in spikelets of 4 to 12 ovoid, straw-colored florets, some of them furnished with long peduncles, others with short ones forming a sort of umbel. There are species which are peculiar to the high mountains of New England and northward, of which the *L. arcuata* (Meyer) is an interesting plant, found upon the alpine summits of the White mountains in New Hampshire; it has channelled linear leaves, ovoid chestnut-brown spikes, ciliate fringed bracts, and taper-pointed sepals. The *luzula* are of no especial value, though the roots of *L. campestris* have a popular reputation as a diuretic, and are used as such in the north of Europe and in China.

LYCAON, a king of Arcadia, generally represented as a son of Pelasgus by Melibœa, daughter of Oceanus, and described by some as the first civilizer of Arcadia, by others as a barbarian who defied the gods. He became by several wives the father of a great number of sons, who were so notorious for arrogance and impiety that Jupiter resolved to punish them. Appearing to them at their dwelling in Arcadia disguised as a poor man, they invited him to a repast, at which was served up the flesh of a boy whom they had murdered. The god rejected the horrible food, and transformed Lycaon and all his sons save one into wolves, or according to other accounts destroyed them by a flash of lightning. The flood of Deucalion was said by some to have been a consequence of the crimes of the Lycaonidae.

LYCAONIA, in ancient geography, a division of Asia Minor, bounded N. by Galatia, E. by Cappadocia, S. by Cilicia, S. W. by Isauria (which at certain periods was regarded as a part of it), and W. by Phrygia, and now included in the Turkish province of Caramania. It was a narrow strip of table-land, deficient in water, with frequently varying boundaries. The inhabitants, according to the Acts of the Apostles, spoke a peculiar dialect. They were warlike and skilled in archery. The principal town was Iconium, now Konia. Lycaonia is first mentioned in Xenophon's history of the expedition of the younger Cyrus, at the time of which it belonged to the Persian empire. After its conquest by Alexander and his death, it was attached to the kingdom of Syria, and subsequently came into the possession of the Eumenes, king of Pergamus, while the other part was ruled by native chieftains. In the latter half of the 1st century B. C. it was conquered by Amyntas, king of Galatia, with which country it passed on his death to the Romans under Augustus, being annexed to the province of Cappadocia.

LYCEUM, the principal gymnasium at Athens

dedicated to Apollo Lyceus, whence its name. It was situated in the eastern suburb of the city, and was surrounded with lofty plane trees. It was elaborately adorned by Pisistratus, Pericles, and Lycurgus the orator. Here Aristotle and his disciples taught, and were called peripatetics from their habit of walking up and down its porches while delivering their lectures.

LYCHNIS (Gr. *λυχνις*, from *λυχνος*, a lamp), a genus of plants belonging to the natural order *caryophyllaceae*, and so called because the thick cottony leaves of some species were used for wicks in lamps. The flowers of the lychnis are elegant, and some are even brilliant. The scarlet lychnis (*L. chalcedonica*) is a native of Siberia and Japan, but has long been cultivated in gardens, in its single and double varieties; its color varies from its natural rich scarlet to rose color and even to white. The ragged robin (*L. flos cuculi*) is a familiar plant, blossoming in early summer, and is best known for its double flowers. The *L. fulgens* is a very ornamental species, with a dwarfish upright stem, longer, broader, more viscidly pubescent leaves, and larger scarlet flowers; it is easily grown from seeds, blossoming the second year, and frequently sowing itself spontaneously. The Chinese lychnis (*L. coronata*) is also prized, but it is rather tender, and needs some protection in winter and planting out the stools in the spring. Several species of lychnis are natives of Great Britain, which are likewise pretty flowering plants. *L. apetalæ* (Linn.) and *L. alpina* (Linn.) are considered as North American, the one occurring in arctic America, the other in Labrador. The lychnises are readily raised, not only from their seeds, but from cuttings under hand glasses or by dividing their roots. They prefer a rich loamy soil for successful treatment.

LYCIA, an ancient country of Asia Minor, jutting out from the western part of its southern coast in a semicircular form, and bounded N. W. by Caria, from which it was separated by the river Glaucus, flowing into the gulf of the same name (now gulf of Makri), N. by Phrygia and Pisidia, the natural boundary being the Taurus range, and N. E. by Mount Climax, on the confines of Pamphylia. This is the northernmost mountain of the Solyma range, which borders the E. coast of the country and terminates in the Sacred Promontory (now Cape Khelidonia). West of the Solyma, and separated from it by the valley of the Linyrus and Arycandus, is the Massicytus range, and W. of the latter, between the Xanthus and Glaucus rivers, the Cragus. The N. part of the country is a table-land, from which most of the rivers flow in a southerly direction to the sea. The summits of the mountains on the E. coast rise above the line of snow; those of the W. coast are next in height. The valleys and the southern mountain terraces were renowned for fertility, while the slopes were covered with beautiful trees, which, together with its natural strength and the number of its good harbors, made Lycia one of the most flourishing coun-

tries of Lesser Asia. Among the productions were wheat, wine, oil, cedars, firs, and plane trees, saffron, and officinal chalk. The principal cities were Xanthus, Patara, Pinara, Olympus, Myra, Tlos, Telmessus, Arycanda, Limyra, and Phaselis. The inhabitants enjoyed a high reputation for having abstained from piracy, which so often prevailed in the neighboring Pamphylia and Cilicia. According to Herodotus, the most ancient name of the country was Milyas, and that of the original inhabitants Milyæ, who were afterward called Solymi. The Solymi, whose name is compared by critics with the Salem and Jerusalem of Canaan, are believed to have been a people of Semitic race; they were superseded in the lower parts of the country by Indo-European settlers, of whom Herodotus mentions the Termilæ from Crete, and Lycus, the son of Pandion, from Athens, who, fleeing before his brother Ægeus, was well received by Sarpedon, king of the Termilæ, and gave the country his name. Homer calls the country Lycia, and speaks of the Solymi as warlike mountaineers against whom Bellerophon was sent to fight by the king of Lycia. The Herodotean names of the original inhabitants were in historical times preserved only in those of the district of Milyas, which, beside the table-land of Lycia, embraced a part of Pisidia, and of the Solyma mountains. The bilingual inscriptions on the curious Lycian monuments, brought from the valley of the Xanthus by the English traveller Sir Charles Fellows, and now deposited in the British museum, prove that the native language of Lycia, though decidedly of Indo-European character, was far from resembling the Greek. The Lycians resisted with success the conquering power of Lydia under Cræsus, but succumbed after a desperate struggle to the armies of Cyrus. They supplied Xerxes on his invasion of Greece with no fewer than 50 ships. After the conquest of Persia by Alexander, Lycia belonged for more than a century to the Syrian monarchy, from which it was detached by the Romans after their victory over Antiochus the Great, and given to their allies the Rhodians. It was soon, however, made independent, when it formed a flourishing republican confederation of cities, the constitution of which is highly spoken of by Strabo. This was overthrown by internal dissensions, when Lycia was united with Pamphylia by the emperor Claudius. Toward the close of the 4th century, however, it became a separate Roman province, with Myra as its capital.

LYCOMING, a N. co. of Penn., drained by the W. branch of the Susquehanna river and its tributaries; area, 1,080 sq. m.; pop. in 1850, 26,257. The surface is mountainous, a range of the Alleghanies extending through the middle from W. to E. with spurs stretching to the N. The valleys are very fertile, and it has extensive mines of bituminous coal. The productions in 1850 were 285,925 bushels of wheat, 262,456 of Indian corn, 166,308 of oats, and 35,220 lbs. of wool. There were 25 grist mills,

114 saw mills, 2 iron founderies, 8 woollen factories, 21 tanneries, 44 churches, and 5,309 pupils attending public schools. The Sunbury and Erie railroad passes through the county, by way of Williamsport, the capital.

LYCON, a Greek peripatetic philosopher, who for over 40 years presided at the lyceum in Athens as a successor of Aristotle, born in Laodicea, Phrygia, about 300 B. C., died in Athens about 226. He was a disciple of Strato, on whose death in 270 he became the head of the peripatetic school in Athens. He regarded corporal punishment as injurious to youth, whom he sought to stimulate by feelings of honor and shame. His elocution was so remarkable for its harmony that Diogenes Laërtius says his name was often written Glycon, "the sweet," but this is supposed to have been its original form. Cicero and Clement of Alexandria mention a work by Lycon on the limits of good and evil; and Apuleius quotes a treatise of his on the nature of animals.

LYCOPERDON, a name given by Micheli to a sort of fungus of the natural family of *gasteromycetes*, and represented in this country in a few species, which also occur in Europe, and in some that are as yet undescribed. It consists of a rounded substance made up of an external membranaceous covering (*peridium*), which becomes roughened by the breaking up of its exterior surface into irregular fragments or distinct wart-like projections, and within of a great quantity of dusky cobweb threads (*capillitium*), upon the surfaces of which innumerable minute, dust-like, brown particles (*sporidia*) are developed, which when the plant has become full grown and matured are driven out by an external pressure into the atmosphere in the form of fine dust. But when the lycoperdon first issues from the ground, it is of a soft, friable, caseous consistence; and if a thin slice be prepared for the microscope, the cellular structure of the entire tissue can be discerned. This soon ripens into a parchment-like covering, and into the dry filamentous interior, and the powdery, dust-like seeds. A not uncommon species is shaped like a pear (*L. pyriforme*), of a light chestnut-colored peridium; another is known as *L. gemmatum*, the peridium of which is invested with spine-like warts, and its dust-like seeds are of a yellowish green tint. The most extraordinary, perhaps, is the giant lycoperdon (*L. bovista*, Fries, or *L. giganteum*, Batsch), which is often many feet in circumference. Schweinitz found it in Pennsylvania, though rare. It occurs likewise in Massachusetts, and no doubt may be found elsewhere in this country. Frequently the interior is converted into a putrescent mass, probably when injured by the wet. The spongy capillitium when dry will burn with a thick, smothering smoke, and has been used with success in stupefying bees. The use of it for this purpose has been claimed as a discovery in bee treatment in the United States within a few years; but Gerard, an herbalist in 1597, mentions the same use of it by the country people

in his time. The smaller species answer the same purpose, but the greater size of this, as it ordinarily grows, is more advantageous. The capillitium being emptied of its dusty sporidia and itself washed away by the rains, the stalk or base of the lycoperdon still remains in the soil, in the form of a jagged-edged spongy cup, and is suggestive of the *L. cyathiforme* of Bosc, which he found in the drier soils of Carolina.

LYCOPHRON, a Greek poet and grammarian of the 3d century B. C., born in Eubœan Chalcis, died in Alexandria. He stood high in the favor of Ptolemy Philadelphus, and was one of the 7 contemporary poets, termed from their number *Pleiades*, who graced the court of that monarch. Philadelphus intrusted him with the classification of the works of the comic poets contained in the Alexandrian library. Lycophron likewise composed a work on the history of Greek comedy and comic poets. Suidas has preserved the titles of 20 of his tragedies, while Tzetzes makes their number over 60, of all which, however, only 4 lines remain. One of his poems is still extant, "Cassandra," or "Alexandra," a long iambic monologue, whose obscurity has become proverbial. The earliest edition of "Cassandra" is that of Venice (1518). The best editions are those of Potter (Oxford, 1697), and Bachmann (Leipsic, 1828). It has been translated into English by Lord Royston.

LYCOPODIACEÆ (Gr. *λυκος*, wolf, and *πους*, foot), or CLUB MOSSES, an order of cryptogamic plants of a low habit, usually looking like mosses; their cere stems often woody, their foliage consisting of sessile, awl-shaped or lanceolate, persistent and simple leaves, in the axils of which are little valved seed vessels (*sporangia*). The order contains only the two genera *lycopodium* and *selaginella*. The several species are called wolf's foot from some fancied resemblance they bear to the paw of that animal; they also have a variety of other names. The most familiar species is the running evergreen (*lycopodium complanatum*, Linn.), with long, tough, subterranean stems, clothed with a few scattered scales, and here and there having a few coarse fibrous roots. The upright branches spread out at top into regular subdivided forks, which are flattened and two-edged; the leaves are very short and acute. The spikes of fructification are conspicuous, usually in fours, and supported on elevated peduncles. Between the scales or bracts, which imbricate over each other to form a cylindrical figure, may be found the small seed vessels, full of a golden yellow powder. This species is much sought for decoration in wreaths, &c. The club moss (*L. clavatum*, Linn.) is much handsomer, with very long trailing and rooting stems, linear, lanceolate, spreading leaves, ending in a bristle, and is often found in shaded woods that are rather dry. The bog club moss (*L. inundatum*, Linn.) is a low creeping species closely appressed to the ground in muddy soils, bearing a single spike, which is the only upright part of the plant. There are some distinct varieties, of which Bige-

low's club moss (*L. i. Bigelovii*) of Mr. Tuckerman may be mentioned. The species ranges as far southward as Louisiana, according to specimens collected by Drummond. The fox-tail club moss (*L. alopecuroides*, Linn.) is a stout-stemmed, densely leaved species, found in the pine barren swamps from New Jersey to Virginia and southward. The ground pine (*L. dendroideum*, Linn.) is perhaps the most beautiful, having upright stems from 6 to 9 inches high, the leaves in 4 or 6 rows, lanceolate linear, acute, entire, appressed, erect, the branches crowded but spreading fan-like; in contour like a little green tree. There are from 4 to 10 cylindrical spikes on each plant. This species is much prized in the composition of bouquets in the winter, furnishing good backs. It can be best found in the richer soils of shaded woods or under bushes. The shining club moss (*L. lucidulum*, Linn.) grows more sparingly in moister and in occasionally overflowed places in dark woods, or by the margins of rivulets; its stems are thick, 8 or 4 times forked, and its branches grow upward; its foliage is composed of rich, deep green, shining leaves, standing in about 8 rows or ranks upon the stems; it has no distinct spikes of fructification, the sporangia being in the axils of the ordinary leaves. This species is to be found principally at the north, but it also occurs along the higher Alleghanies at the south. On the summits of high mountains to the northward occurs the *L. selago* (Linn.), similar to the last in its general aspect, but thicker stemmed, closer, fuller branched, and forming a level-topped cluster; the plant is only from 3 to 6 inches high. This form is identical with the European species under the same name.—The moss-like lycopodiums are known as *selaginella*, the diminutive of *selago*, an ancient name of a species, and are pretty little plants. The most common is the rock moss lycopodium (*S. rupestris*), seen upon dry sunny rocks, of a bright green color when young and growing, but turning to a brownish hue when old and dry; the seed vessels, abundant toward the tips of the branches, are of a yellow color, looking like little two-valved pouches. Still another form in this section is seen in *S. apus* (Linn.), a very delicate flat-stemmed and complanate-leaved species, with pellucid foliage, and the plant looking like a scale moss; it is found in wet fields and near springs.—The lycopodiums have a similar geographical range to that of the ferns, mostly abounding in the tropics, and delighting in humid situations. Species occur however far northward, and in Lapland the *L. alpinum* and the *L. selaginoides* cover large tracts. Their uses are not very extensive. The yellow powder contained in the spore cases is inflammable, and is employed under the name of lycopode or vegetable brimstone in the manufacture of fireworks, and in pharmacy to roll up pills, which when coated with it may be put into water without being moistened. *L. clavatum* is almost the only variety now used in medicine. The earlier German herbalists used it against gravel.

Prof. Rolink of Jena recommended it against epilepsy in 1670, and Dr. Muralt of Zürich was the first to use it externally in intertrigo and other eruptive diseases in 1780. It always had a domestic reputation against the cardialgia and colic of young children. Dierbach recommends it as a soothing and somewhat anodyne remedy in affections of children, especially in colic, and also in whooping cough and asthma. Hahnemann revived the use of this gentle but efficacious remedy. He and his followers regard it as almost a specific against indigestion and even obstinate constipation, when attended with heat in the face and tendency to redness and eruptions, especially about the eyelids and nose. Given methodically it will often break up a tendency to styes upon the lids, and is useful in many chronic eruptions, both as an external application and internal remedy. In obstinate coughs it often proves efficacious. Its utility in many affections of the kidneys and bladder is also well established. The most remarkable plant of this order is the *yatum condenado* (great devil or accursed), which appears to be the *L. rubrum* of Chamisso. Sir William J. Hooker, who calls it *L. catharticum*, states that it acts vehemently as a purgative, and has been administered successfully in Spanish America in elephantiasis. Vastring says that woollen cloths, boiled with lycopodiums, especially with *L. clavatum*, acquire the property of becoming blue when passed through a bath of Brazil wood. *Selaginella denticulata* is cultivated as an ornamental plant, and several others with branching forked stems and delicate green leaves, from tropical South America, are prized for their beauty.

LYCURGUS, the Spartan legislator, concerning whose personal history there is little certainty. According to Herodotus, he lived about 996 B. C., became guardian to his nephew King Labotas of the Eurystheneid line of Spartan kings, and in this capacity transformed the institutions of his country into the order which they retained for centuries. Whether his system of things was revealed to him by the Pythian priestess, whose oracle he visited, or was introduced from Crete, was in the time of Herodotus a matter of dispute, the Spartans themselves taking the latter view. Under his institutions the Spartans became from the most lawless of the Greeks tranquil and prosperous, and they regarded him reverentially, and built a temple to him after his death. This is the oldest statement concerning him. Thucydides, without mentioning Lycurgus, agrees in stating that the political system of the Spartans had been adopted by them 4 centuries before, and had successfully rescued them from intolerable disorders. This would make the introduction of the Lycurgan discipline to have occurred in 880–820 B. C., which Grote accepts as the most probable date. That no certainty was attainable in the 3d century B. C. respecting the date or parentage of Lycurgus appears from the fact that Timæus supposes two persons to have existed bearing the name, and that the acts of both had been as-

cribed to one. The more detailed account of Plutarch is deduced from authorities no more ancient than Xenophon and Aristotle, excepting the poets Aloman, Tyrtaeus, and Simonides. He is stated to have been of the Proclid line of kings, 11th in descent from Hercules, son of Eunomus, younger brother of Polydeutes, and uncle and guardian to Charilaus. After the death of Polydeutes, leaving a pregnant widow, the latter proposed to Lycurgus that he should marry her and become king. He refused the proffer, though temporarily exercising authority, awaited the birth of Charilaus, and immediately presented the child in the agora as the future king of the Spartans. Accused by the widow of ambitious designs, he left Sparta, and went to Crete, where he studied the laws of Minos and the institutions and customs of the different cities; thence he visited Ionia and Egypt, and, as some authors affirmed, Libya, Iberia, and even India. In Ionia he is said to have obtained from the descendants of Creophylus a copy of the Homeric poems, which had not previously been known in the Peloponnesus; and some authors report that he had even conversed with Homer himself. Meantime, under the weak sway of Charilaus, Sparta was in a state of anarchy. On his return, finding the two kings as well as the people to be weary of their condition, and that he was regarded as the man to correct the disorders of the state, he undertook the task, and with this view consulted the Delphian oracle. Receiving strong assurances of divine encouragement, and also more special instructions, which were the primitive *rhētra* of his constitution, he suddenly presented himself in the agora, with 80 of the most distinguished Spartans, all in arms, as his guards and partisans. King Charilaus at once consented to second the designs of his uncle, and the bulk of the Spartans submitted to the venerable Heraclid, who appeared both as a reformer and as Delphic missionary. "Lycurgus," says Grote, "does not try to make the poor rich nor the rich poor; but he imposes upon both the same subjugating drill, the same habits of life, gentlemanlike idleness, and unlettered strength, the same fare, clothing, labors, privations, endurance, punishments, and subordination. It is a lesson instructive at least, however unsatisfactory, to political students, that with all this equality of dealing he ends with creating a community in whom not merely the love of preëminence, but even the love of money, stands powerfully and specially developed." The successful imposition of this discipline upon a state which had grown up without it must have been a work of extreme difficulty, and must have required the combination of great genius and personal authority on the one hand with imminent peril on the other. Having obtained for his institutions the approbation of the Delphic oracle, he exacted from his countrymen a promise not to alter them till his return, left Sparta, and was never again heard from. The immediate effect of his legis-

lation, which remained nearly unchanged for 5 centuries, was to raise Sparta from insignificance to great power and comparative eminence as a state. (For an account of the constitution of Lycurgus, see SPARTA.)

LYCOURGUS, an Attic orator, born in Athens about 396 B. C., died there in 323 B. C. He first devoted himself to the Platonic philosophy, but afterward became a disciple of Isocrates. In 343 he was sent with Demosthenes on an embassy to counteract the intrigues of Philip. In 337 he was elected guardian of the public revenue for a term of 5 years, and continued in office for 3 consecutive terms. He was also appointed superintendent of the city, and censor, and in the latter capacity caused his own wife to be fined for violating one of his sumptuary enactments. He belonged to the party of Demosthenes, and was one of the 10 orators whose surrender was demanded by Alexander, but the people of Athens refused to give him up. Of the prosecutions which he conducted, the most celebrated was that against Lysicles, who had commanded the army of Athens at Chæronea; Lysicles was condemned to death. There were 15 orations of his extant in the ages of Plutarch and Photius, but all have since perished except that against Leocrates, and some fragments.

LYDGATE, JOHN, an English Benedictine monk and poet, born in Lydgate, Suffolk, about 1375, died in Bury St. Edmund's about 1461. After studying at Oxford, and visiting France and Italy, he entered the monastery of Bury St. Edmund's, and established a school for instructing the sons of the aristocracy in versification and composition. He began to write about 1400. The principal of his works are his "Fall of Princes," "Storie of Thebes," and "Historie, Siege, and Destruction of Troye." His minor poems were published by the Percy society in 1840. Ritson, in his *Bibliographia Poetica*, gives a complete catalogue of his works.

LYDIA, an ancient country of western Asia Minor, bounded N. by Mysia, E. by Phrygia, S. by Caria, and W. by the Ægean sea or Grecian archipelago. The precise boundaries, however, are uncertain on account both of frequent variation and of want of precision in the ancient descriptions. In the time of the Roman dominion Lydia seems to have extended N. as far as the range of mountains called Sardene, a S. W. branch of the Phrygian Olympus, and S. to the Mæander, or at least to the Messogis range, which forms the N. margin of the valley of that river. The E. boundary is especially uncertain. The western strip on the coast, which contained most of the Greek colonies of Ionia, and a part of those of Æolia, was not generally included under the name of Lydia. The Tmolus, a chain of mountains spreading from the eastern portion of the Messogis to the coast of the Ægean, and terminating in a peninsula opposite the island of Chios, divided Lydia into two unequal parts, the northern of which embraced the fertile plain of the Hermus, and the

southern the valley of the Cayster. An affluent of the Hermus was the Pactolus, celebrated in antiquity for its golden sands, though not the only stream in the country which by its gold washings contributed to the extraordinary riches of its kings. The natural wealth of Lydia and its excellent climate made it one of the early seats of civilization in western Asia, and there can hardly be any doubt that in various things it became the instructor of its Grecian neighbors.—The origin of the Lydian people is a matter of controversy among the most eminent critics of our age, the prevailing opinion being in favor of their affinity to the Carians, Mysians, Pelasgians, and other Indo-European tribes; while Bunsen, O. Müller, Lassen, and others are inclined to regard them as Semites. Their connection with the Tyrrhenians or Etruscans by Herodotus will naturally be regarded as a confirmation of the latter opinion by those who contend for a Semitic derivation of that ancient Italian people. Another argument is found in the fact that Herodotus mentions Ninus, son of Belus, both of which names are so conspicuous in Assyrian history, as the ancestor of the kings of the 2d or Heraclidic dynasty of Lydia; but the weight of this statement is destroyed by the strange connection of the same line with Alcæus, son of the Grecian Hercules, which occurs in the same historian. Herodotus remains, however, the principal authority for the early history of Lydia, the few extant fragments of the earlier native writer Xanthus and others being of little importance or historic value. According to Herodotus, the people of Lydia, who were previously called Mæonians, under which name they appear in Homer, received the appellation by which they were later called from their 3d king Lydus, son of Atys, son of Manes. This dynasty, however, which is known as that of the Atyadæ, is entirely mythical. The 2d dynasty, which may be styled semi-mythical, that of the Heraclidæ, descended from Hercules and the slave girl of Jardanus, ruled "for 22 generations of men, a space of 505 years," the first king being Agron, son of Ninus, and the last Candaules, "whom the Greeks call Myrsilus," son of Myrsus. This Candaules perished through a conspiracy of his wife with Gyges, one of the king's body guard, who founded the 3d or historical dynasty, that of the Mermnadæ (according to Rawlinson, 724 B. C.). Enraged by the murder of their rightful king, the people rose in arms against the usurper, but he came to terms with them, and was confirmed on the throne by a favorable decision of the Delphic oracle. This he rewarded by magnificent presents sent to the shrine of Apollo, which in the time of Herodotus proved the splendor of the court of the early Mermnadæ. Gyges commenced his reign by warlike incursions into the territory of Miletus and Smyrna, and took the city of Colophon, thus introducing the long series of Lydian aggressions which terminated with the subjection of the Greeks of Asia Minor under

Croesus. The greatest part of his reign, however, was peaceful. His son and successor Ardys (686-'87) took Priene and made war upon Miletus. In his reign the Cimmerians, driven from their homes N. of the Caucasus by other northern nomads, entered Asia Minor, and captured Sardis, the capital of Lydia, all but the citadel. It was not until the 3d generation, under the long reign of Alyattes (625-568), the son and successor of Sadyattes, that the Lydians were able finally to expel the invaders, who had committed frightful ravages all over Lower Asia. Alyattes continued the war with Miletus, which had been resumed by his father, but could not achieve the conquest of that city. He took Smyrna, but met with great disaster in an attempt on Olazomenæ. The most important war of this king, however, was waged against Cyaxares of Media, who, having subverted the Assyrian monarchy, had extended the limits of his dominions as far W. as the Halys. The war was carried on for 6 years with varying success, and was terminated by a peace brought about by the allies of the contending parties after a battle which was interrupted by that eclipse of the sun so renowned in antiquity, and predicted, it is said, by Thales, the Milesian philosopher. The peace was cemented by the marriage of a daughter of Alyattes with the heir apparent to the Median throne, Astyages, who thus became the brother-in-law of Croesus, the last king of Lydia (568-'54). This king, whose proverbial riches and mutations of fortune have been immortalized by some of the most interesting narrations of Herodotus, had gradually subdued Ephesus and all other Greek cities in western Asia Minor, and all other territories W. of the Halys, except Lycia and Cilicia, when he determined to revenge the wrongs of Astyages, who had been deprived of his throne by his young grandson Cyrus, and declared war against the Persian conqueror. This ended with the taking of Sardis, the captivity of Croesus, and the subjugation of Lydia. The Lydians, who had long before practised various arts of peace, including the weaving and dyeing of fine fabrics, metallurgy, coining of money, and music, in all of which they excelled, being now deprived of their independence, and forbidden by Cyrus to wear arms, gradually sank into luxury, which afterward proved contagious and pernicious to their conquerors. Together with Mysia, Lydia formed the 2d satrapy of the Persian empire, Sardis being the seat of the satrap. After the conquest of Persia by Alexander, it frequently changed masters, and belonged among others to Antiochus the Great of Syria at the time of his defeat at Magnesia by the Romans. It was given by the victors to the kingdom of Pergamus, and after the death of the last Attalus became a part of the Roman proconsular province of Asia. The effeminate Lydians early disappeared as a people, but the name of the country survived under the Byzantine emperors. Its territories are now chiefly included in the

districts of Sarnukhan and Aidin in the Turkish pashalik of Anatolia.

LYDIAN STONE, BASANITE, or TOUCHSTONE, a velvet-black quartz or flinty jasper, used for testing gold alloys. The metal when rubbed upon the stone leaves a portion upon the black surface; and this being touched with a drop of nitric acid indicates to the experienced eye the comparative purity of the alloy by the color. Suitable pieces of quartz for this use were originally obtained in Lydia, whence the name.

LYE, EDWARD, an English clergyman and philologist, born in Totness, Devonshire, in 1704, died in Yardley-Hastings, Northamptonshire, in 1767. He was specially devoted to the Saxon and Gothic languages. His first work was an edition of the *Etymologicum Anglicanum* of Junius, from the unpublished MSS., which appeared in 1748. He next published the "Gothic Evangelists" of Ulfilas; but the chief labor of his life was the compilation of a large dictionary of the Anglo-Saxon and Gothic languages, which was finished just before his death (2 vols. fol., 1772).

LYELL, SIR CHARLES, a British geologist, born in Kinnordy, Forfarshire, Nov. 14, 1797. At Midhurst in Sussex he was prepared for Exeter college, Oxford, at which he received in 1819 the degree of B.A., and in 1821 that of M.A. He then entered upon the practice of the law, but soon abandoned it in order to devote himself to geological pursuits, his natural taste for scientific studies being stimulated by the lectures of Dr. Buckland, professor of geology at Oxford. At this period mere geological speculations, for which the previous half century had been distinguished, had given place to a sounder system of investigation, and geologists were busily engaged in collecting materials, out of which theories might afterward spring forth. Lyell entered earnestly into this work, and his early papers, published in the "Transactions of the Geological Society" and in "Brewster's Journal of Science" in 1826 and 1827, chiefly upon the recent deposits of Forfarshire, Dorsetshire, and Hampshire, display remarkable powers of observation; while his use of the phenomena to illustrate and explain the mode of formation of similar deposits of a more ancient period exhibit a readiness to detect points of resemblance for which his subsequent writings are especially distinguished. In Jan. 1830, appeared the first volume of his "Principles of Geology." (See *Geology*, vol. viii. p. 162.) It rapidly went through several editions, and was received with the greatest interest for the variety of instructive facts brought together from the observations of the author and from others gathered from all parts of the world, for the clear and attractive style in which these were presented, and more than all for the skill with which the operations now going on were made to explain those of past periods, and to account for the present condition of the surface of the earth. In successive editions the work so increased, that in 1838 the author divided it into

two distinct treatises, retaining in one, which he called "Elements of Geology," the description of the formations of past epochs; and giving in the other, "The Principles," the description of processes now going on by which the phenomena of the older formations are explained. In the edition of 1851 the "Elements" appeared with the title of "Manual of Elementary Geology." These works placed their author in the first rank among geologists, and gave to the science itself a new character, removing from it all dependence upon visionary speculations by showing how its principles should be deduced in the true system of inductive philosophy from well observed facts.—In 1841 Lyell visited the United States, having been invited to deliver a course of lectures on geology in Boston. He availed himself of the opportunity to travel over a large portion of the northern and middle states, and as far south as Kentucky, giving especial attention to the geological features of the country, and learning also by intercourse with the geologists and naturalists of the several states the results of their investigations. He also studied the different institutions of the country, particularly those of learning; and in a year thus spent in the United States, in Canada, and Nova Scotia, he gathered a vast fund of information, some of the fruits of which are presented in his work entitled "Travels in North America in the years 1841–'2" (2 vols. 8vo., London, 1845; 2d ed., 1855). The scientific matter contained in this book was prepared chiefly for the general reader; his more extended observations were presented in numerous papers published in the "Proceedings" and "Transactions" of the geological society of London, the "Reports of the British Association," and the "American Journal of Science." This work contained the most complete geological map of the United States ever published, in the compilation of which Lyell was greatly aided by Prof. James Hall of Albany, and the various state geological reports.—In Sept. 1845, he again embarked for the United States, and remained in the country until June, 1846. He visited portions of the northern states which he had not before seen, and devoted nearly 6 months to a tour through the southern states. He examined the most interesting localities of the tertiary formations in the states bordering the Atlantic and the gulf of Mexico, passed up the Mississippi river, making many interesting observations of the deposits upon its banks and the influence of so mighty a stream as a geological agent, and in southern Missouri visited the sunk country of New Madrid devastated by the earthquake of 1811–'12. In 1849 he published "A Second Visit to the United States" (2 vols. 8vo., London; 3d ed., 1855). Everywhere his observations were extended beyond the geological structure of the country, and included the manners and customs of the people he met with, and their various institutions; and his criticisms upon these are expressed in a liberal and philosophical spirit.—In the modern

progress of geology Lyell's name is more identified with the arrangement of the tertiary formations than with any other department. He first classified them into groups distinguished by the relative proportion of living and extinct species of fossil shells which they contained, and gave them the names of eocene, miocene, pliocene, and pleistocene, founded on this distinction, as described in the article GEOLOGY. He has investigated with especial care all those great natural phenomena in progress which involve long periods of time, and has undertaken to give approximate estimates of the time already expended, based upon the results produced and the rate at which these are now developed. Thus, in visiting active volcanoes (see ETNA), he sought to approximate the age of the successive piles of lava from data afforded in modern times of their rate of increase. In examining the region of extinct volcanoes of central France, he applied the same method of reasoning to show that vast periods must have elapsed while the successive volcanic and fluvial deposits were produced. In the United States he at once sought Niagara to trace the work of the mighty cataract in wearing back its way toward Lake Erie, and to estimate the time this has been going on; and in his second visit he found in the Mississippi river, and the vast delta of its sediments deposited near the gulf, material for another class of calculations of the same general character. In 1848 the merited distinction which Lyell had attained was recognized by the crown in conferring upon him the honor of knighthood; and in 1855 he received from the university of Oxford the degree of D.C.L. He is one of the most active members of the British association, as also of the geological society, of which he was elected president in 1836 and again in 1850.

LYGODIUM, the generic name of a beautiful plant known as the climbing fern. The species common to the United States is *L. palmatum* (Swartz), with slender, flexile, and twining stalks growing 8 or 4 feet long; its leaves are rounded, heart-shaped, palmately many-lobed fronds; these as they grow on the upper portions of the plant become narrow, several times forked, and make a sort of terminal panicle bearing abundant seed dots (*sori*). Its habit is to twist itself upon bushes, and thus to climb several feet high. It may be found from Massachusetts to the southern states, though sparingly in the latter.

LYING TO, a nautical manoeuvre by which in a heavy sea a vessel has her sails and helm so adjusted as to bring her head close to the wind, and thus receive the full force of the waves upon her bow. This is resorted to as a measure of safety when the vessel is likely to be endangered by keeping her course; she is put under such canvas as she will best bear, and lying close to the wind rides the waves more securely than in any other position, and makes comparatively little headway. It is also frequently used to merely retard the progress of a vessel for

some temporary purpose, or in the evolutions of a battle.

LYKINS, an E. co. of Kansas, bordering on Mo., and drained by the Osage river and its branches; area about 600 sq. m.; pop. in 1859, 3,012. The principal town is Osawatimie, at the confluence of the Osage and Potawatimie creek.

LYLY, JOHN. See LILLY.

LYMAN, PHINEAS, an American soldier, born in Durham, Conn., about 1716, died in West Florida in 1775. He was graduated at Yale college in 1738, and subsequently practised law in Suffield. In 1755, being commander-in-chief of the Connecticut militia, he served with Sir William Johnson at the battle of Lake George, and, after his commander had been disabled, conducted the engagement to a prosperous conclusion. He was present at the unsuccessful attack upon Ticonderoga by Abercrombie, and at the capture of Crown Point and the surrender of Montreal; and in 1762 he commanded the provincial troops in the expedition against Havana. Subsequently he passed many years in England in efforts to procure a grant of land on the Mississippi for the purpose of establishing a colony, and in 1775 embarked with his eldest son and some others for the country in question. He died in West Florida on his way thither, a short time after his son. The emigrants who followed him encountered many misfortunes, and after the subjugation of the country by the Spaniards in 1781-'2 were obliged to take refuge in Savannah.

LYMPH, the fluid found in the lymphatics, or the absorbent vessels distributed abundantly over the body, and especially to the skin and subcutaneous areolar tissue. (See ABSORPTION.) The lymphatics are found in all animals which have a lacteal system, the two forming one set of vessels; but, while the lacteals begin on the intestinal walls for the purpose of taking up the nutrient chyle, the lymphatics arise in fine plexuses in most of the vascular tissues, both superficial and deep-seated; generally accompanying the veins, and like them converging to larger and larger trunks, they pass through a series of glandular bodies (see GLAND), and finally empty their contents into the thoracic duct with the elaborated chyle, which thence pass into the venous circulation near the heart. Lymph nearly resembles chyle, containing, however, only a trace of fatty matter and less albumen and fibrine; this resemblance and its ultimate passage into the blood show that it is a nutritious fluid, and not excrementitious as maintained by Hewson and Hunter; the effete matters are probably carried off by the venous system, as we find very little trace of lymphatics in the muscles and nervous centres in which the greatest interstitial changes are continually going on; there is also no trace of excrementitious matter in lymph. Lymph resembles diluted *liquor sanguinis*, and is doubtless chiefly derived from this portion of the blood which has transuded through the walls of the capillaries in a comparatively crude state, and requires the elaborating action of the

lymphatics, as the chyle does that of the lacteals, before it is fit to be poured into the circulation; the lymphatics also take up such partially disintegrated results of the waste of the tissues as are capable of reassimilation, by a kind of universal internal digestive process. Lymph is transparent, while chyle is opaque, the former having none of the minute particles which constitute the molecular base of the latter; it generally contains a considerable number of corpuscles, resembling the colorless corpuscles of the blood. From experiments made on dogs by Bidder and Schmidt, it is inferred that the mingled amount of lymph and chyle daily poured into the circulation in man is 28½ lbs., or as much as the entire mass of the blood, having, however, not more than one third of the solid matter of the latter; and of this at least 22 lbs. is lymph, which has passed out of the circulation only to be returned to it again. According to Dr. G. O. Rees, lymph and chyle on analysis present the following composition:

Constituents.	Lymph.	Chyle.
Water.....	96.586	90.287
Albuminous matter (coagulable by heat)...	1.900	3.516
Fibrinous matter (spontaneously coagulable).....	0.190	0.870
Animal extractive matter, soluble in water and alcohol.....	0.940	0.893
Animal extractive matter, soluble in water only.....	1.819	1.288
Fatty matter.....	a trace	3.601
Salts—alkaline chloride, sulphate, and carbonate, with traces of alkaline phosphate, oxide of iron.....	0.585	0.711
Total.....	100.000	100.000

The lymph corpuscles, like those of the chyle, are formed by the cells of the vascular and ductless glands of the lymphatic and absorbent system, becoming most numerous in the vicinity of the thoracic duct and the great veins near the heart. These corpuscles are regarded as the early stage of the colorless and red corpuscles of the blood, into either of which they may be metamorphosed, though the former cannot be changed into the latter, having distinct forms and different purposes to serve in the economy; most pass into red corpuscles, but some do not go beyond the colorless condition. (See BLOOD.) In the lower vertebrates the circulation of the lymph is assisted by pulsatile cavities called lymphatic hearts; these are wanting in man and mammals, and the onward flow is effected by the contractile fibrous coat of the vessels themselves, which have an alternate movement of contraction and relaxation in successive portions; there is also a *vis a tergo* arising from the continual introduction of fresh fluid at their origins, which is aided by the pressure of the surrounding tissues, and the action of their interior valves prevents the passage in a backward direction. The term "coagulable lymph" has been erroneously applied to an inflammatory exudation, capable of passing spontaneously into organized tissue, in proportion to the amount of fibrine it contains, and under unfavorable circumstances prone to degenerate into pus.

Mr. Paget makes two forms of it, the fibrinous and the corpuscular, the former coagulating into a fibrous clot, the latter not thus coagulating, but forming an aggregation of cells; the former is the characteristic of adhesive, the latter of suppurative inflammation.—For details on the lymph and its conservative nature, see Paget's "Lectures on Surgical Pathology."

LYNCH, ANNE CHARLOTTE. See BOTTA, ANNE CHARLOTTE.

LYNCH, THOMAS, jr., one of the signers of the declaration of independence, born in Prince George's parish, S. C., Aug. 5, 1749, perished at sea in the latter part of 1779. He was educated at Eton and at the university of Cambridge, and was subsequently admitted a student in the Temple, London. In 1773 he returned to South Carolina, relinquished the profession of the law, and settled upon a plantation on the North Santee river presented to him by his father. At the outbreak of hostilities in 1775 he was appointed a captain in the first regiment of provincial regulars raised by South Carolina, and by his arduous exertions to recruit his command seriously impaired his health. Being unanimously chosen by the provincial assembly to succeed his father, who was unable through ill health to discharge his duties as a member of congress, he took his seat in that body in 1776, but in a few months was compelled by the precarious state of his own health to retire from active political life. One of his last public acts was to affix his signature to the declaration of independence. In the latter part of 1779, as the only means of saving his life, he was prevailed upon to sail for St. Eustatius, where he could find a neutral vessel which would convey him to France. The ship in which he sailed was never heard from after she had been a few days at sea, and is supposed to have been lost in a violent storm which occurred about that time. Mr. Lynch was one of the most promising of the younger statesmen of the revolution.

LYNCH, WILLIAM F., a captain in the U. S. navy, born in Virginia about 1805. He entered the service as a midshipman, Jan. 26, 1819, became a lieutenant in May, 1828, commander in Sept. 1849, and captain in April, 1856. In 1847 Lieut. Lynch planned an expedition to explore the course of the river Jordan and the shores of the Dead sea, which received the sanction of the government; and in November of that year he sailed for Smyrna in the naval store ship Supply, with a party consisting of Lieut. John B. Dale, Passed Midshipman Richmond Aulick, and 11 petty officers and seamen. Messrs. Henry Bedlow and Henry J. Anderson were subsequently associated with the expedition, the first at Constantinople, and Mr. Anderson at Beyroot. On his arrival at Smyrna, Lieut. Lynch repaired immediately to Constantinople, to obtain the requisite authority from the Turkish government to pass through Palestine. He found no difficulty in accomplishing this, and subsequently in engaging Arabs, camels, &c. On March 31, 1848, the party was landed in the

bay of Acre; in April they were upon the lake of Tiberias, and commenced the navigation of the Jordan to the Dead sea, having for the purpose two metallic life boats constructed by Mr. Francia, which were found to be admirably adapted to the purpose. On April 18 they reached the Dead sea, of which a thorough exploration (including many soundings) was made. In May a portion of the party commenced their return to the Mediterranean by way of Jerusalem, a part remaining to determine by a series of levels the depression of the Dead sea below the Mediterranean; 23 days were occupied in this laborious work, the result coinciding almost precisely with that obtained by Lieut. Symonds, an English officer. The depression was found to be 1,312 feet. Lieut. Lynch's narrative of this expedition has passed through 7 editions, the last published at Baltimore in 1852. He subsequently planned an exploration of western Africa, which was not executed. He is also the author of a volume entitled "Naval Life, or Observations Afloat and on Shore: the Midshipman" (12mo., New York, 1851).

LYNCHBURG, a town of Campbell co., Va., on the S. bank of James river, 120 m. W. S. W. from Richmond; pop. in 1850, 8,071; in 1860, estimated at 12,000. It occupies a steep acclivity rising gradually from the river bank, and breaking away into numerous hills, whose terraced walks and ornamented dwellings give a picturesque and romantic appearance to the town. About 20 m. in the background rises the Blue Ridge, together with the celebrated peaks of Otter, which are in full view. The town contains 9 churches (1 African, 1 Baptist, 1 Episcopal, 3 Methodist, 2 Presbyterian, and 1 Roman Catholic), a college under the patronage of the Methodist Protestant church, and a flourishing female academy. Tobacco manufacturing is the chief business. About 70 factories and stemmeries are in operation, giving employment to more than \$1,000,000 of capital. Lynchburg is supplied with water by a reservoir constructed in 1828, at an expense of \$50,000. This reservoir is situated at a point 253 feet above the level of the James river, and is capable of containing 400,000 gallons of water, which is forced a distance of 2,000 feet by a double force pump, worked by a large breast wheel. It is in contemplation to enlarge and extend these works. There are 4 iron founderies, together with a machine shop owned by the Virginia and Tennessee railroad company, 8 flouring mills, 2 daily newspaper establishments, 3 printing offices, a bank, 3 branch banks, and a savings institution. Lynchburg is favorably situated for a large inland commerce, and for manufactures. It has tributary to it a great extent of magnificent country, enjoys almost inexhaustible water power, which is yet however undeveloped, and is in the neighborhood of vast fields of coal and iron ore. The celebrated Botetourt iron works are not far distant. Lynchburg is connected with all parts of the country by the James river and Kanawha

canal, and the Virginia and Tennessee, the South Side, and the Orange and Alexandria railroads. It was laid out in 1786.

LYNDHURST, JOHN SINGLETON COPLEY, baron, an English statesman, and ex-chancellor of Great Britain, born in Boston, Mass., May 21, 1772. He is a son of the artist Copley, went with his mother and sisters to England in his 3d year, and was educated under a private tutor and at Trinity college, Cambridge. He received the degree of bachelor of arts in 1794, when he shared with one associate the highest honors of the university, and subsequently became a fellow of the college. His appointment also of "travelling bachelor" gave him an opportunity of visiting the United States and Canada. He returned to England in 1798, was called to the bar in 1804, went on the Midland circuit, and rose slowly to eminence in his profession. He had obtained the leadership of the circuit, when in 1817 he attracted general attention by his part in the defence of Watson, charged with high treason as one of the rioters at Spa-fields. He was also in that year counsel for the crown in the prosecution of Brandreth, who was executed for high treason as a ringleader of the Derby tumults. Though his politics had originally been liberal, he entered parliament in 1818 under tory auspices, was soon after knighted, and was solicitor-general in the Liverpool administration from 1819 to 1823. In 1820 he assisted in managing the trial of Queen Caroline by the house of lords. He succeeded to the attorney-generalship in 1824, was returned in 1826 with Viscount Palmerston as member for the university of Cambridge, and a few months later was made master of the rolls. In 1827 he opposed the bill for Roman Catholic emancipation, though under Mr. Canning, who immediately after formed a cabinet on liberal principles, he accepted the chancellorship on the retirement of Lord Eldon, and was raised to the peerage as Baron Lyndhurst of Lyndhurst (April 27). He retained the great seal through the Canning, Goderich, and Wellington administrations, favoring the reformatory views of the first and the concessions of the last, advocating in 1828 the repeal of the test and corporation acts in opposition to Lord Eldon, and in 1829 supporting the scheme of Catholic emancipation. He resigned his office on the accession of Earl Grey to power in 1830, but this ministry extended to him in 1831 the judicial station of lord chief baron of the exchequer, which he held until 1834, and in which he earned high reputation as a judge. He was one of the most strenuous opponents of the reform bill, was prominent in effecting the defeat and consequent resignation of Earl Grey's ministry on May 7, 1832, and was the chief adviser of the duke of Wellington in his fruitless attempt during the next 5 days to form a tory cabinet. On the formation of the first Peel ministry in 1834 he was restored to the chancellorship, and relinquishing it after the resignation of this ministry, which soon followed, he became one of the most

effective leaders of the opposition. In 1835 he proposed in the house of lords amendments to the municipal reform bill, which were unexpectedly accepted by the commons, and which proved less injurious to the operation of the law than was anticipated by the tory party. He efficiently resisted the claims urged by the Roman Catholics of Ireland, and became especially formidable from his custom of reviewing annually the measures of each parliamentary session in speeches remarkable for their sarcasm and brilliancy. When Sir Robert Peel returned to power in 1841, the great seal was for the third time offered to Lord Lyndhurst. The fall of the Peel ministry in 1846 he regarded as the termination of his public life; but he has since then occasionally taken a prominent part in the debates in the house of lords. He gave his cordial support to the Derby ministry in 1852, advocated the war with Russia, made a masterly exposition of the policy of Prussia in 1855, and denounced the peace concluded at Paris in 1856 as a virtual capitulation on the part of England. He has continued in his advanced age one of the ablest orators in parliament, and one of the chief advisers of the conservative party. By his first wife, widow of Lieut. Col. Charles Thomas, who fell at Waterloo, he had 8 children. She died in 1834, and 3 years afterward he married, at the age of 65, Miss Georgiana Goldsmith, a young Jewish lady celebrated for her beauty, by whom he has had a daughter.

LYNN, a city of Essex co., Mass., 9 m. N. E. from Boston, on the eastern railroad; pop. in 1860, about 13,000. Its limits include a large plain in the S. and W. sections, extending back from Massachusetts bay, and raised but a few feet from the water level; a range of hills in the rear; a number of ponds known as the lakes of Lynn, beyond these; and in the N. E. an elevated plain, the most pleasant and healthy portion of the town. There can scarcely be said to be any business centre of the town. Lynn is best known as the oldest and still one of the most prominent of the shoe manufacturing towns of New England, the business consisting mainly of the production of women's and children's shoes. Full and accurate statistics are not obtainable; the most trustworthy give the number of pairs of boots annually manufactured as 3,274,878; shoes, 6,000,700 pairs; value of annual production, \$4,165,529; females employed, 11,021; males, 4,545. Several branches of trade incidental to shoemaking also employ considerable capital. There are 11 leather currying establishments, employing 196 persons and about \$76,000 capital, producing finished leather annually to the value of \$407,485. The value of lasts annually manufactured is \$15,320. There are 1 high, 7 grammar, 9 intermediate, and 24 primary schools, 18 churches (2 Baptist, 1 Christian, 8 Congregational, 1 Episcopal, 1 Friends', 7 Methodist, 1 Roman Catholic, and 2 Universalist), a library association, 3 weekly newspapers, 8 banks of issue and discount with an aggregate capital of \$550,000, 2 savings

banks, 3 insurance companies, and 2 loan and fund associations.

LYNN, ELIZA, an English authoress, born in Cumberland county in 1828. She is one of 12 daughters. Her father was a clergyman, her mother the daughter of a bishop. She spent the early part of her life alternately at Gad's Hill, Rochester, and Keswick, and afterward resided for some time in London. She published in 1846 "Azeth, the Egyptian," a story founded on an Egyptian tradition, and in 1848 "Amy-mone," a romance of the times of Pericles. In 1851 appeared her "Realities," a work of fiction of modern life. She has since actively contributed to periodical literature.

LYNN-REGIS, or KING'S LYNN, a parliamentary borough and seaport of Norfolk, England, on the Great Ouse near the Wash, 38 m. W. N. W. from Norwich; pop. in 1851, 19,355. Four small rivulets called fleets, crossed by numerous bridges, intersect the town in various directions. On the land side it was formerly surrounded by a fosse, defended by 9 bastions and flanked by a strong embattled wall, of which extensive ruins still remain. The town is lighted with gas and well built; but the streets, excepting the newer ones, are narrow. St. Margaret's church, founded in the 12th century, is a handsome edifice of freestone; the chapel of St. Nicholas, erected in the 14th century, is one of the finest in the kingdom, in the Gothic style, 200 feet in length and 78 feet in breadth. The situation of Lynn gives it many commercial advantages, and it has long had an important trade. It exports corn, wool, sand for glass, and various manufactures, and imports coals, timber, hemp, wine, cork, tallow, &c. There are ship yards, breweries, malt houses, cork-cutting establishments, and sail cloth, sack-making, and rope and twine manufactories. The borough sends two members to parliament.

LYNX, a carnivorous animal, usually arranged with the cats, but differing from the genus *felis* in wanting the small upper premolar next the canine, the dentition being—incisors $\frac{3}{1}$, canines $\frac{1}{1}$, and molars $\frac{3}{3}$ — 28; the head is short and arched; jaws short; ears short, erect, and more or less tufted; fore feet with 5 toes, and hind feet with 4, with retractile nails; tail as long as or shorter than the head, and truncated at the tip; body short and stout. There are certain differences in the skull also, which justify a separation from *felis*, and the acceptance of the genus *lynx* (Raf.). The largest American species is the Canada lynx (*L. canadensis*, Geoffr.), the *loup cervier* of the Canadians; it is about as large as a setter dog, or 3 feet long to the base of the tail, the latter being 6 inches to the end of the hair; the triangular ears have an erect tuft of coarse black hairs; the general color is gray above with darker clouds, and lighter beneath; the feet very large, with naked pads underneath, densely furred in winter, and then making a track in the snow 9 inches long and almost as large as that of a black bear; the eyes large, nose obtuse, ears with a narrow

margin of black, whiskers stiff and chiefly white; in summer the fur is shorter and more rufous. This lynx lives in the deepest woods, rarely approaching the habitations of man, and is most abundant in the arctic regions north of the great lakes, its thick fur enabling it to resist the greatest cold; it is very strong and active, an excellent climber, and a good swimmer. It breeds once a year, having generally 2 whelps at a time. Its flesh is eaten by Indians and hungry trappers, and its fur is prized for robes, muffs, collars, &c.; it is most often caught in steel traps, which it readily enters. It feeds principally on grouse and birds of similar size, on rabbits and other northern rodents; when hard pressed it will attack as large an animal as a deer, and sometimes prowls about the pioneer's cabin in search of lambs, pigs, and poultry. It rarely descends into the New England and middle states, but is found principally from Canada to lat. 66° N., to the east of the Rocky mountains. The bay lynx (*L. rufus*, Guld.), the American wild cat, has been described under BAY LYNX; there are varieties of this in Texas and Mexico and on the Pacific coast, described as *L. maculatus* (Aud. and Bach.) and *L. fasciatus* (Raf.). Temminck believes that the Canada lynx is found also in Europe, having given it the specific name of *borealis*, which others think a distinct species.—The European lynx (*felis lynx*, Linn.) is about the size of the Canada species, but the color is deeper rufous with more distinct brownish spots; the hair is shorter, and the tail longer, more tufted, with the terminal half black. It is spread over southern Europe and Asia, and furnishes a considerable quantity of valuable fur for robes and coverings; its physiognomy is much less ferocious than that of the cats of the same size. The booted or marsh lynx (*L. caligatus*, Temm.) is smaller than the preceding species, with a longer tail; the color is bluish gray, with indistinct transverse blackish bands, reddish below, the long ears tipped with a blackish pencil, and a large patch of black on the leg extending nearly to the first joint (whence the common name of this species), and the tail black at the end, and above this 2 or 3 rings of black and white. The chaus is probably a variety; both are found in Asia and northern Africa. The caracal (*L. caracal*, Linn.; genus *caracal*, Gray) is of a vinous red color, whitish below and around the head and throat; it is about 2½ feet long and 20 inches high, and the tail reaches to the heels; the ears are also very long, and tufted. This is the animal called lynx by the ancients, supposed by them to possess a wonderful power of sight, and said to have been kept and trained for the chase like the hunting leopard (*F. jubata*, Schreber); there is no such faculty in the modern animal, which is very restless and suspicious in confinement. It possesses the activity and carnivorous propensities of its congeners, pursuing its prey, whether bird or quadruped, into trees; according to Temminck, this species hunts in packs like dogs, tracing prey by the scent,

and also eats the leavings of the lion and larger carnivora; these dog-like habits may indicate the lynx as one of the animals connecting the cats with the dogs. It is found in Asia and Africa. Other species are described.

LYON, GEORGE FRANCIS, an English traveller and author, born in Chichester in 1795, died on the passage from America to England in 1832. He entered the naval service in 1809, was present at the attack on Algiers by Lord Exmouth in 1816, and in 1818 was commissioned to accompany Mr. Joseph Ritchie on his tour of exploration into central Africa. Ritchie died at Moorook in Fezzan, where the travellers were detained through the want of funds and the treacherous conduct of the bey of the province, but Lyon returned to England, after encountering many dangers and privations, and published his "Narrative of Travels in Northern Africa" (4to., London, 1821), a work abounding in useful information on the geography of central Africa, and of which the geological portion was prepared by Dr. Buckland. In 1821, in command of the Hecla, he accompanied Capt. Parry on his 8d arctic expedition, publishing on his return "The Private Journal of Captain G. F. Lyon," &c. (8vo., London, 1824). In 1828 he made an unsuccessful attempt in the Griper to enter Repulse bay in the arctic regions, through Sir Thomas Rowe's Welcome, of which he also published a narrative. Subsequently he passed several years in Mexico, and died on his return from a second visit to America. His remaining works are: "The Sketch Book of Capt. F. G. Lyon during 18 Months' Residence in Mexico, No. 1" (London, 1827), and "Journal of a Residence and Tour in the Republic of Mexico in 1828," &c. (2 vols. 8vo., 1828).

LYON, MARY, an American teacher, founder of the Mount Holyoke female seminary, born in Buckland, Mass., Feb. 28, 1797, died in South Hadley, Mass., March 5, 1849. When 17 or 18 years of age, she taught her first school at Shelburne Falls. At the age of 20 she became a pupil at the Sanderson academy, Ashfield, where, as her means would allow her to remain but a short time, she slept but 4 hours out of the 24, and devoted to study all the rest of her time, except that occupied by her hurried meals. In 3 days she committed to memory and recited with perfect accuracy all of Adam's Latin grammar that was usually learned by students. To provide means for further study, she taught for several seasons, attending the best schools she could find in the intervals. In 1821 she entered the school of the Rev. Joseph Emerson, at Byfield, near Newburyport; and in the autumn of this year, and for two years subsequently, she taught in the Sanderson academy. While thus engaged she was invited to become an associate principal with Miss Z. P. Grant of the Adams female academy at Londonderry, N. H.; and having accepted the invitation, she spent the winter and spring of 1824 at Amherst, under the instruction of Prof. Eaton, qualifying herself to give experimental instruction in chemistry. The

Adams female academy, under the management of Miss Grant (afterward Mrs. Banister) and Miss Lyon, assumed a character entirely unknown previously in female schools in this country. The principles afterward adopted so successfully at Rugby, by Dr. Arnold, here found their first exponents; and the substitution of conscientiousness and benevolence for emulation as motives to progress and good conduct, which subsequently formed so marked a feature of the schools at Ipswich and South Hadley, were first adopted at Londonderry. Owing partly to the severity of the climate, the school at Londonderry was closed in winter. During this season Miss Lyon taught a school in her native town, which was continued there, and in the adjoining town of Ashfield, for 6 years. Beginning with about 20 pupils, the number increased eventually to 100, the greater part of them young women above 18 years of age. In 1828 Misses Grant and Lyon removed to Ipswich, Mass., and were followed by a large number of their pupils. The school at Ipswich was maintained through the year, but for two years Miss Lyon spent her winters at Buckland in teaching as before. In 1831, however, the effect of such extraordinary exertion told so severely upon her constitution, that she was obliged to relinquish the Buckland school, and confine herself to Ipswich. For the next 4 years, owing to the impaired health of Miss Grant, the entire charge of the Ipswich seminary rested on Miss Lyon. The establishment of a seminary for girls, embodying the principles hitherto maintained at Ipswich and Londonderry, and at the same time affording its advantages at a low price, in order to collect there young women who, like herself, were possessed of very moderate means, had long occupied her thoughts; it was henceforth to be the great purpose of her life. On this subject Miss Lyon corresponded extensively with clergymen and friends of education in Massachusetts, and a plan for such an institution, to be called the New England female seminary, was drawn up, and trustees were appointed; but unforeseen obstacles defeated the project. In the autumn of 1834 she resigned her connection with the Ipswich seminary, and, amid great discouragements, undertook the work of founding a female seminary on a new system. Aided to some extent by clergymen and others, she succeeded in obtaining contributions, and on Nov. 8, 1837, a part of the buildings having been completed, the school was opened with about 80 pupils, under the name of the Mount Holyoke female seminary, being near the picturesque hill of that name in South Hadley township. It was a feature of her plan, to which she had adhered against great opposition, that the whole domestic labor of the institution was to be performed by the pupils and teachers, each pupil in her turn devoting one hour a day to domestic duties. This was not, as has been stated, with a view to make the seminary a manual labor institution. The price of board and tuition had been put at one half that of

seminaries of the same grade generally, and no compensation was allowed for the time spent in work; but it was intended to make the pupils independent of servants, to teach self-denial, to promote their health, and to preserve their interest in domestic duties. The number applying for admission was from the first greater than could be accommodated, and measures for the erection of additional buildings were commenced in 1839, and the buildings completed in 1842. After the first year the assistant teachers were all graduates of the school. Miss Lyon presided over it for 12 years. The reputation of the school extended, not only over every part of the Union, but to foreign lands. The thorough scholarship, systematic habits, familiar and critical acquaintance with the Scriptures, and earnest and efficient benevolence of its graduates, were everywhere remarked. Between 60 and 70 of its pupils have become foreign missionaries, and a very much larger number are or have been the wives of clergymen, or teachers in the United States or foreign countries. In the course of her life as a teacher, Miss Lyon instructed more than 8,000 pupils, nearly all of whom bore, more or less, the impress of her character. The Mount Holyoke female seminary is still continued, though it does not now stand alone, many of its pupils having founded seminaries on its model. Miss Lyon's only published works are a pamphlet entitled "Tendencies of the Principles embraced and the System adopted in the Mount Holyoke Female Seminary" (1840), and the "Missionary Offering" (Boston, 1843).—See "Power of Christian Benevolence, illustrated in the Life and Labors of Mary Lyon," by Edward Hitchcock, D.D. (12mo., Northampton, Mass., 1851; 2d ed. 1860).

LYON, MATTHEW, an American politician, born in Wicklow co., Ireland, in 1746, died at Spadra Bluff, Arkansas, Aug. 1, 1822. He emigrated to New York in 1755, and, being too poor to pay for his passage, was assigned by the captain of the ship, in accordance with the practice at the time, for a pecuniary consideration, to a farmer in Connecticut, in whose service he remained a number of years. Subsequently he became a citizen of Vermont, and in July, 1776, was commissioned as lieutenant in one of the companies of "Green Mountain boys." In the latter part of the same year he was cashiered for unnecessarily deserting a post on Onion river; but he subsequently served as commissary-general, and eventually rose to the rank of colonel of militia. After the war he engaged in paper making, iron casting, and a variety of other occupations, and at one time edited a newspaper of an ultra democratic character entitled "The Scourge of Aristocracy and Repository of Important Political Truth," of which the types and paper were manufactured by himself. He married a daughter of Gov. Chittenden, and, becoming an active political leader, was elected in 1797 to congress by the anti-federal party. In Oct. 1798, he was convicted

of a libel on President Adams, and confined for 4 months in the Vergennes gaol, a fine of \$1,000 which had also been imposed upon him being paid by his friends. An attempt to expel him from congress as a convicted felon failed for want of a two-thirds vote. During this congressional term he had a violent personal altercation on the floor of the house with Mr. Griswold of Connecticut, ending in blows; but the motion to expel them was defeated. In 1799, while a prisoner in gaol, he was reelected to congress from Vermont; and after the expiration of his term removed to Kentucky. At the first congressional election held after his arrival he was returned to the house, of which he continued a member until 1811. Subsequently he held the office of U. S. factor for the Cherokee Indians by the appointment of President Monroe, and removed to Arkansas, of which he was the territorial delegate elect to congress at the time of his death. Though rough and impetuous in manner, he was an able debater, and to the end of his life, which witnessed many mutations of fortune, continued a man of active business habits.

LYONNAIS, one of the ancient military divisions of France, comprising the provinces of Lyonnais, Forez, and Beaujolais, and bounded N. by Bourbonnais and Burgundy, E. by Dauphiné, Bresse, and the principality of Dombes, S. by Velay and Vivarais, and W. by Auvergne. Its capital was Lyons. The province of Lyonnais was divided into Lyonnais proper and Franco-Lyonnais, and now forms the departments of the Rhone and Loire and a part of the department of Ain.

LYONNET, PETER, a Dutch jurist and naturalist, born in Maastricht in 1707, died at the Hague in 1789. During the leisure of official duties he turned his attention to natural history, and made additions to a French translation of Lesser's work on the "Theology of Insects," published at the Hague in 1742. In 1744 he executed drawings for Trembley's treatise on the fresh water polypi. In 1760 appeared his great work, *Traité anatomique de la chenille qui rongé le bois de saule*. An injury to his eyesight at the age of 60 prevented the completion of his investigations upon this caterpillar. The latter part of his life was chiefly spent in making a large collection of paintings.

LYONS, a township and village, capital of Wayne co., N. Y., on the Erie canal and the New York central railroad, 44 m. W. from Syracuse, and 86 m. E. from Rochester; pop. in 1855, 5,305; of the village, 8,221. It is drained by the Clyde river, which is formed by the junction of the Canandaigua outlet and Mud creek. The village contains the county buildings, 7 churches, 2 banks, 2 newspaper offices, the Lyons union school with between 800 and 900 scholars, and several manufactories. Among the latter is an extensive manufactory of essential oils, principally peppermint, of which about 10,000 lbs. are produced annually, being $\frac{1}{4}$ of the whole amount made in the United States.

In 1855 there were 1,849 pupils attending public schools.

LYONS (Fr. *Lyon*; anc. *Lugdunum*), the principal manufacturing city of France, and since 1884 one of its most powerful fortresses, capital of the department of the Rhone, situated at the junction of the Saône and Rhone, in lat. 45° 45' N. and long. 4° 49' E., at an elevation of nearly 1,000 feet above the level of the sea, distant by railway 814 m. S. S. E. from Paris, 218 m. N. N. W. from Marseilles, and 100 m. W. S. W. from Geneva; pop. in 1856, of the city and its communes, 292,721, and of the city proper, 255,960. The city proper is chiefly built on a peninsula or tongue of land between the Saône and Rhone. Some extensive quarters, as St. Just, St. George, St. Irénée, Vaise, &c., are situated on the W. or right bank of the Saône, on and around the hill of Fourvières, which is crowned with a tower about 700 feet high, commanding the most imposing view of the city and of the Alps on the E.; and on the left bank of the Rhone are the suburb of La Guillotière, which is divided into two sections by the main street, and the new district of the Quartier des Brotteaux. S. of the city the new and handsome suburb Perrache is rapidly extending toward the peninsula; and on the N., beyond the fortifications, on the declivity of a hill extending from one river to the other, is the commune of La Croix-Rousse, including the suburbs of Serni and St. Clair, and chiefly inhabited by weavers. For municipal purposes Lyons is divided into 5 arrondissements; the 1st comprises the N. and the 2d the S. part of the city, and the 3d, 4th, and 5th include respectively the suburbs of Guillotière, Croix-Rousse, and Vaise, which were annexed to the city in 1852; the 5th arrondissement includes also the whole right bank of the Saône. Even the most repulsive and ancient parts of Lyons, where the narrow and crooked streets and lanes are darkened by the excessive elevation of the houses, which are 7 to 9 stories high, have been rapidly improving within the last 20 years, though still suffering from a bad system of paving and from an over-crowded population. Among the most beautiful streets are those of Algérie and of Constantine, and especially the Centrale, opened in 1853, and the Impériale in 1855, both containing many fine buildings and shops. There are over 50 squares or public places in Lyons, but only a few of them are very attractive. The Place Bellecour, however, is one of the largest squares in Europe. The other leading square is the Place des Terreaux (noted for its intolerable heat in summer), with the Hôtel de Ville and the museum or *palais des beaux arts*. Cinq-Mars and De Thou were executed in this square, and the guillotine was erected there in 1794.—The Saône is spanned by 12 bridges. The principal are those of Nemours, Tilsit or de l'Archevêché, the superb bridge of Mulatière, and the new bridge de la Quarantaine. The Rhone is spanned by 7 bridges, the most noted of which are the suspension bridge

of Louis Philippe, Lafayette bridge, and the bridge de la Guillotière. The quays of Lyons are the most remarkable of Europe; the most celebrated are the quays St. Clair, St. Antoine, and Orleans. The principal public buildings are the city hall and the *palais des beaux arts*. The former is one of the finest of the kind in France, has a front about 150 feet in width, and is flanked with a square tower and dome at either end; the balustrade is ornamented with statues of Hercules and Minerva, and in the centre is a clock tower surmounted by a cupola. The *palais des beaux arts*, or museum, in the ancient convent of St. Pierre, consists of 4 large piles of buildings, devoted to the exchange, chambers of commerce, museum, and collection of arts and science (with some remarkable specimens of Roman antiquity), schools of drawing and natural history, agricultural and other societies, depot of machines for the silk manufacture, &c., and to a public library, which is one of the best provincial libraries in France. Another celebrated public building is the Hôtel Dieu, which was founded by Childebert and his queen in the 6th century, and consists at present of a series of buildings extending along the Rhone and accommodating about 12,000 in-door and a number of out-door patients. The hospital of Antiquailles occupies the site of the ancient palace of the Roman emperors, and is devoted to lunatics and incurable diseases. The cathedral or church of St. John is a remarkable Gothic edifice; the church of St. Nizier is an elegant building of the 14th century; that of Ainay, and the churches of the Cordeliers and of St. Paul, are among the other interesting ecclesiastical structures. The chapel of Notre Dame de Fourvières, although a modest building, is held in high regard on account of its lofty position on the hill of that name, and of its great antiquity. Lyons contains also a Protestant place of worship and a synagogue, and has altogether about 20 Roman Catholic churches and chapels. It is the seat of an archbishop, and has an academy and imperial college, a celebrated veterinary school, a great number of learned, educational, and charitable institutions, a *mont de piété*, 2 savings banks, a branch of the bank of France, and a great number of courts of justice, among which is a *conseil des prud'hommes*, a commercial tribunal, composed half of masters, half of workmen, designed to settle in a conciliatory spirit disputes respecting wages and other matters. There are over 20 printing offices; and the principal journals are the *Courrier de Lyon*, *Gazette de Lyon*, and *Salut public*. The city is the head-quarters of the 8th military division. The fortifications consist of 18 detached forts arranged in a circle of about 13 m. round the city, crowning the hills of St. Croix and Fourvières on the right bank of the Saône, and of La Croix-Rousse above the suburb of that name. They have been built since 1834, in consequence of the outbreaks of that year and of 1831. The chief work, Fort Montessay, has full command of the turbulent suburb of La Croix-Rousse,

which may be entirely cut off from the city by a fortified barrack on the Place des Bernardines. —The total annual value of the goods manufactured in the arrondissement of Lyons is estimated at from \$60,000,000 to \$70,000,000, of which silk forms the largest proportion, giving employment to about 110,000 persons, including only 1,800 females and about 300 children. The jewellers and goldsmiths of Lyons transact a large business, estimated annually at \$1,200,000. In the sham jewelry trade, which amounts to about \$1,500,000, Lyons ranks next to Paris. Carriages, glass and crystal, various kinds of acid, orchil, soft soap, indigo, liqueurs, iron and machinery, leather, colored paper, &c., are all manufactured to some extent in Lyons; its beer is celebrated; the production of felt hats has declined; its dye houses for cotton, silk, and wool are of great importance; woollen shawls are produced to the annual amount of \$2,400,000. All these branches of industry, however, are overshadowed by the silk manufactures. They were introduced into Lyons during the reign of Louis XI. by merchants of Florence and Lucca, and great factories were established in 1586 by Genoese manufacturers. From 1650 to 1680 the silk industry employed from 9,000 to 12,000 looms. After the revocation of the edict of Nantes, when many of the most skilful weavers went into exile and settled at Spitalfields (London), Crefeld (Rhenish Prussia), and other places, the number declined to about 4,000; from 1780 to 1788 it rose to 18,000, but after the revolution fell to 3,000 or 4,000. From 1804 to 1812 the number increased to 12,000; in 1816 it was 20,000; in 1827, 27,000; in 1837, 40,000; in 1848, 50,000; and the number in 1860 is supposed to exceed 60,000, consuming over 6,000,000 lbs. of silk, valued at \$35,000,000. Silk weaving is not conducted in factories, but in the dwellings of the master weavers, each of whom has usually from 2 to 8 looms, which with the greater portion of their fittings are his own property. He and his family keep as many of the looms at work as they can, and employ *compagnons* for the remainder. The latter are not permanent residents, but remain in the city only while there is a demand for their labor. Apprentices and *lanceurs* constitute the rest of the operatives. The former are generally apprenticed from the ages of 15 to 18; the latter are children from 9 to 14, who prepare bobbins and weave fabrics demanding less skill than others. About $\frac{2}{3}$ of the looms are worked by master weavers and the members of their families, nearly an equal number by *compagnons*, and the rest by apprentices and *lanceurs* or children. The silk merchants, of whom there are about 600, supply the raw silk and the patterns to the owners of the looms, to whom is intrusted the task of producing the web in a finished state. Half the wages paid by the silk merchants go to the owners of the looms and half to the laboring weavers. Most of the raw silk reaches Lyons through London, and some also *via* Paris and Marseilles. Efforts to secure a

more direct trade with the silk-producing countries have however been made by various leading houses. A school of art (*institution de la Martinière*), to which a professor is attached who teaches the adaptation of designs to the loom or the *mise en carte*, and which gives free instruction in drawing and modelling to about 200 pupils, has done much to improve manufacturing skill. The demand from the United States has given a great impulse to the silk industry of Lyons, and led to the manufacture of a cheaper but strong kind of fabric, suited to the American market. In connection with the silk trade is an establishment in the *palais des beaux arts*, called the *condition*, where, by the agency of heat, the unwrought silk is reduced to an equable weight and dryness. The weavers are imperfectly educated, but are not much addicted to intemperance. Continuous hard labor, however, has degraded them physically; they are subject to scrofulous and spinal diseases and rheumatism, and many of them are exempted from military service on account of debility or deformity. The upper and middle classes of Lyons are thriving, and include many families of great wealth. The neighborhood of the city is said to contain 3 times as many villas as that of Paris. One great drawback to the more rapid increase of the industrial establishments is the want of coal. The deficiency of water has been remedied since 1856 through the operations of the great water works company, in connection with the canalization of France. The same company has also introduced a better system of drainage.—The ancient city of Lugdunum was mainly built on the hill of Fourvières (anc. *Forum Vetus*). Munatius Plancus, governor of Gaul, founded there a colony as early as 43 B. C. Augustus, under whom it became the capital of the province (Gallia Lugdunensis), established there a senate, a college of magistrates, and an athenaeum. It also became the centre of the 4 great Roman roads which traversed Gaul. Caligula instituted there games and festivals. Claudius, who was born there, gave to Lugdunum the privileges of a Roman city. In A. D. 58 it was destroyed by fire, but rebuilt by Nero. Trajan, Hadrian, and Antoninus erected in the city many monuments, and also established annual fairs. Afterward, having declared for Albinus, it was pillaged by his rival Septimius Severus after his victory near the town (197). Several martyrs were put to death during the persecutions against the Christians, St. Pothinus among the number, and according to later writers also St. Irenæus. Attila desolated the city in the middle of the 5th century, when most of the great Roman monuments were destroyed, although a few relics of them still remain. From that time until the 14th century the city was successively under the sway of the Burgundians, Franks, German emperors, and its feudal archbishops and municipal council. Under Philip the Fair it was annexed to France. During the following period the city acquired great celebrity by its trade and industry. It was fortified

by Francis I., and embellished with quays and fine edifices under Louis XV. The citizens manifested great enthusiasm in behalf of the revolution of 1789, and subsequently embraced the Girondist party. Afterward they rose against the convention, killing the president of the Jacobin club (Challier), and the city was subjected to a siege by a republican army under Kellermann (Aug. 8, 1793), and compelled to surrender after a heroic resistance of two months. As a punishment the convention doomed the city to destruction. Collot d'Herbois and Fouché were sent there as commissioners; the city and its environs were deluged with blood, and over 2,000 persons were put to death. Under the reign of Napoleon I., when the invention of Jacquard, a native of Lyons, was introduced, the city recovered its prosperity; but it was again shaken in 1814 and 1815, and still more seriously by the commercial crisis which followed the revolution of 1830. A strike for higher wages produced in 1831 a terrible insurrection. The operatives seized the Hôtel de Ville, but evacuated it on the arrival of Marshal Soult and the duke of Orleans. A formidable political outbreak in 1834 could only be quelled after several days' fighting in the streets. A new calamity was added by the inundation of 1840. The revolution of 1848, however, did not create any great disturbances. In 1856 Lyons was desolated by another inundation. An interview between Napoleon III. and the dowager empress of Russia took place at Lyons in June, 1860.

LYONS, GULF OF (Fr. *golfe du Lion*; anc. *Gallicus Sinus*, also *Mare Gallicum*), a gulf of the Mediterranean, on the S. E. coast of France, between a range of the Pyrénées on the W. and a headland near Toulon on the E., washing the shores of the departments of Bouches du Rhone, Gard, Hérault, Aude, Pyrénées-Orientales and part of Var, and the N. E. coast of Catalonia in Spain, extending from the isles of Hyères to Cape Crenx for about 165 m., with a breadth of nearly 100 m. The Rhone, Aude, Hérault, and some other rivers flow into the gulf. The principal places on its coast line are Marseilles, Toulon, and Cette. The shores are in many parts intersected by extensive lagoons and low islands, and the gulf is frequently subjected to violent gales. It is said to have been named from the lion, in consequence of the fury of the waves; hence it is occasionally and correctly called by some English authorities gulf of Lion.

LYONS, EDMUND, Lord Lyons of Christchurch, a British admiral, born in the hamlet of Burton, near Christchurch, Hants, Nov. 21, 1790, died at Arundel castle, Sussex, Nov. 23, 1858. His ancestor, Henry Lyons of Antigua, and some time of Philadelphia, was descended from a family settled in King's county, Ireland, in 1622, and married a daughter of Samuel Winthrop, grandson of John Winthrop, first governor of Massachusetts. As early as his 8th year he accompanied Sir Richard Bickerton on a cruise at sea, and 8 years later entered the yacht *Royal Charlotte* as a volunteer. In 1803

he received his midshipman's warrant, and for several years saw much active service in the Mediterranean. In the latter part of 1808 he went in the *Monmouth* (64) to the East Indies, was soon after appointed acting lieutenant in the brig *Barracouta*, and participated in several brilliant exploits, among which were the escalade of Fort Belgica in the island of Banda Neira, at midnight, in the midst of a terrific storm, and the capture of Fort Marraek in the straits of Sunda. The latter, planned wholly by himself, was accomplished on the night of July 30, 1811, with 35 men, who stormed a fortress mounting 64 heavy guns and garrisoned by 180 troops and the crews of 2 gun boats, demolished a large portion of the building and its armament, and escaped with but trifling loss. Subsequently, in the command of a flotilla of gun boats, he rendered efficient service at the capture of Meister Cornelis; but he was compelled by sickness soon after to return to England, where in 1812 he was promoted to the rank of commander. Two years later he received his commission of post-captain. For many years after the peace he remained on shore. In 1828 he was appointed to the *Blonde*, with which he took part in blockading Navarino, and which, under his command, was the first English man-of-war that ever entered the Black sea. After much important service, including 12 days in the trenches before the Morea castle, the last stronghold of the Turks in the Peloponnesus, he was employed, on the formation of the independent kingdom of Greece, to convey King Otho and his suite to Athens. In acknowledgment of his efficient discharge of many important duties, civil as well as military, he was knighted and appointed British minister at the new court, where he resided for 14 years. In Feb. 1849, he became British minister at Bern, and in 1851 at Stockholm. In Oct. 1853, he was appointed second in command of the fleet destined to operate in the Black sea, under Admiral Dundas, on whose retirement in Dec. 1854, he succeeded to the chief command. In Sept. 1854, he earned the warmest commendations by the admirable manner in which he covered the landing of the allied forces at Eupatoria. It was owing in a great measure to his arrangements that an army of 57,000 men, with 11,000 horses and 170 guns, was disembarked in the neighborhood of a hostile force of nearly equal strength without the loss of a single man. Having supported the French at the battle of the Alma by bringing his guns to bear upon the Russians, he led the fleet to Balaklava, where he arrived in advance of the army, with which he cooperated vigorously until the close of the war. His most dashing exploit was the useless and hopeless attack upon Fort Constantine, in Oct. 1854, undertaken at the earnest instance of Lord Raglan and Gen. Canrobert, when for several hours his flag ship, the *Agamemnon*, sustained at a distance of 600 yards a terrific fire from several hundred heavy guns in position. He planned

and accompanied the successful expedition into the sea of Azof in May and June, 1855; and during the siege, whenever the opportunity was afforded, he was constantly riding along the lines in front of Sebastopol, and participating with energy in many important military operations. His return to England was the occasion of numerous ovations, and on June 23, 1856, he was called to the house of peers as Baron Lyons of Christchurch. He died as full of honors as of years, universally beloved for his amiability and genial manners. In personal appearance he is said to have borne some resemblance to Nelson.—His elder son, the present peer, RICHARD BICKERTON PEMELL, Baron Lyons, born April 26, 1817, has officiated in various diplomatic capacities in Athens, Dresden, and Florence, and in 1859, on the recall of Lord Napier, was appointed minister to the United States. His younger son, EDMUND MOWBRAY LYONS, an officer of the navy, born June 27, 1819, rose to the rank of commander in 1846, and commanded in the Crimean war H. M. ship *Miranda*, when he received a wound in the night attack on the sea defences of Sebastopol, from which he died 5 days afterward (June 28, 1855) in the hospital of Therapia. Of the 2 daughters of Admiral Lyons, one, Augusta, is married to the duke of Norfolk, and the other, Anne, to Baron Wurtzburg, a Bavarian nobleman.

LYRE (Gr. *λύρα*), one of the most ancient and famous of the family of stringed instruments, the origin of which is lost in antiquity. It was familiar to the Egyptians, as appears from their earliest monuments and records, and also to the nations of western Asia, by whom it was introduced among the Greeks. The latter, however, had a special tradition which attributed its invention to Mercury, who is described by Homer, in his "Hymn to Mercury," as forming a lyre out of the shell of a tortoise which he caught at the entrance of the cavern within which his mother Maia had a few hours previous given birth to him. The following passage in the hymn affords a good description of the ancient lyre:

And through the stone-shelled tortoise's strong skin
At proper distances small holes he made,
And fastened the cut stems of reeds within,
And with a piece of leather overlaid
The open space, and fixed the cubits in,
Fitting the bridge to both, and stretched o'er all
Symphonious chords of sheep-gut rhythmical.

SHELLY.

The instrument above described seems, however, to have been identical with that to which the name *cithara* (*κίθαρα*) was subsequently given, and resembled the modern guitar in having the strings drawn across the sounding bottom. In the lyre of later times they were free on both sides. Concerning the original number of strings there is a variety of opinions; but from the fact that, in the earlier part of the 7th century B.C., Terpander of Antissa added to the instrument 3 new strings, thus constituting it a heptachord, there is reason to believe that the lyre of Mercury could not have had more than 4, although lyres with 8 strings were undoubtedly

used in some parts of Greece. This heptachord, embracing a compass of an octave, was that most commonly used among the Greeks, and subsequently among the Romans, for many ages; although gradually new strings were added and various modifications effected in the shape of the instrument. In Pindar's time lyres were made with 8 strings; Timotheus of Miletus increased the number to 11; and as early as the age of Sappho and Anacreon, a variety of instruments of the lyre species, introduced from Asia Minor, such as the *magadis*, *barbiton*, and others, were in use in Greece, some of which had a compass of 2 octaves and upward of 20 strings. About the time of Pindar the lyre seems to have first become distinct from the cithara, and on account of its fuller and deeper tone was employed in recitations of epic poetry and other compositions of an elevated character. It consisted of a tortoise-shell sounding bottom, from which rose 2 horns (*ανγυς*), the one shaped like the letter S, and the other like the same letter reversed, connected near the top by a transverse piece of wood, to which were fastened the upper ends of the strings, stretched perpendicularly from the bottom. When played, it was placed in an upright position between the knees, while the cithara rested upon the knees, and the sounds were produced by the *plectrum*, or lyre stick of ivory or polished wood, in the hands of the performer, and sometimes by the fingers alone. The Egyptian lyres, constructed on a similar principle, though less elegant in form, were of considerable power, having 5, 7, 10, and 18 strings, and were played in a similar manner. In the Berlin museum is a well preserved one pierced for 18 strings. The lyre, though invented by Mercury, became the peculiar instrument of Apollo, the tutelary god of music and poetry, and was employed to perform the prelude to recitations of epic poetry, and to fill up pauses between the parts. It also gave its name to a species of poetry called lyric, to which it originally furnished an accompaniment.

LYRE BIRD, a large tenuirostral passerine bird, of the family *certhiadae* or creepers, and sub-family *menurinae* or wrens, according to Gray; and of the family *eriodoridae* of Cabanis. Only two species of this singular bird are described, both natives of Australia, constituting the genus *menura* (Davies). The common lyre bird (*M. superba*, Dav.) from the form of the legs has been placed among the gallinaceous tribes, and its name of wood pheasant indicates its general resemblance to these; it has also been ranked with the hornbills among the *conirostras*, and by others in the neighborhood of the thrushes; but it seems most nearly allied to the wren family. The length is about 43 inches, of which the tail is 25; the bill is rather more than an inch long, resembling that of a peacock, strong, keeled, broad at the base, and of a black color; the nostrils long and narrow, in a fossa near the middle of its length; the wings moderate and rounded; the body about the size of that of a pheasant; tail very long,

and of a singular form, differing in the two sexes; tarsi long and robust, covered with broad scales in front; toes and claws long and strong, fitted for scratching; orbital region naked. The general color above is brownish black, and grayish brown below; the head slightly crested, and the throat rufous; there are 8 kinds of feathers in the tail, which are long and 16 in number; 12 have long slender shafts with delicate filaments more and more distant toward the end; the middle two feathers, longer than the rest, are pointed at the end and barbed only on the inner edge; the external two feathers are broad, growing wider to the ends, and curving outward like an elongated S, the two resembling much the outline of the ancient lyre; the curved part is black with a narrow white border, and pearly beneath with bright rufous spots on the inner web. They are shy, running rapidly among the brush wood, and scratch for slugs, beetles, and insects, generally among the fallen leaves; they fly but little. They live in pairs in rocky places overgrown with bushes; their motions are graceful, the males strutting and displaying the tail feathers like a peacock; the voice is very varied and pleasing, especially in the morning and evening; the nest is made of roots and moss, shaped like a basin and roofed; the eggs are said to be only 2 in number. The second species (*M. Alberti*, Gould) is smaller, with a shorter tail, and with the outer feathers shorter than those succeeding them internally. They represent the rasorial type of the *pameras*.

LYSANDER, a Spartan commander, killed in battle in 395 B. C. There is no mention of him in history till 407 B. C., when he succeeded Cratesippidas as navarch or commander of the Spartan fleet in the Ægean. Of all the Spartans of that age he was perhaps the best fitted to contend with Alcibiades, who was then in command of the Athenian squadron. Having increased his fleet to 70 ships, by contingents from the insular and Asiatic allies of Sparta, and obtained pecuniary assistance from Cyrus, recently appointed satrap of Ionia, he defeated the Athenian fleet, through the rashness of Antiochus, whom Alcibiades had intrusted with its temporary command, in consequence of which the latter was superseded. Lysander's term of service having expired, he was succeeded in 406 by Callicratidas, who was killed the same year at the battle of Arginusæ. The allies of Sparta then urged the reappointment of Lysander; but as the Lacedæmonian law did not allow the office to be held twice by the same person, he was named vice-admiral, virtually with the chief command, though nominally subordinate to Aracus. He at once proceeded to Ephesus, gathered a powerful fleet, established his personal authority in Miletus, took Oedreæ in Caria and sold its inhabitants into slavery, and carried Lampascus by storm. The Athenian armament soon arrived, and fixed its station at Ægospotami, on the opposite side of the Hellespont. It consisted of 180 ships,

under the command of 10 generals, none of whom except Conon was qualified for his position. Over against the Athenians in the harbor of Lampsaenus lay the Spartan fleet. For 4 successive days the Athenian commanders sailed across the intervening sea, with their ships in battle array, and dared their enemy to come out of his harbor. On the 5th, when the Athenians, grown presumptuous, had beached their triremes, Lysander rowed swiftly across the Hellespont, and captured the entire navy of Athens, with all its seamen, except 8 or 9 galleys that escaped with Conon to Cyprus, and the sacred ship *Paralus* that bore to Athens the intelligence of the disaster. This catastrophe decided the fate of Athens, which surrendered to Lysander early in 404, and also brought to a close the Peloponnesian war. If the glory of having captured Athens belongs to Lysander, the infamy arising from the establishment of the 30 tyrants over her, and from the subjection of many other Hellenic cities to a cruel despotism, is also his. The victories and triumphs achieved by him appear in fact to have disturbed the equilibrium of his mind. A residence in Sparta was no longer tolerable to his soaring pride, nor did he return thither till recalled by the ephori to answer for his misconduct in Asia. After the accession of Agesilaus he was appointed one of the 30 councillors who were to accompany that king in his expedition to the East; but his arrogance soon destroyed whatever influence he may have had with Agesilaus, who, to get rid of him, sent him to superintend affairs in the Hellespontine cities. In 395 B. C. he was placed in command of a military force which was destined to cooperate with the army of Pausanias in reducing the Boeotians and their allies. He entered Boeotia and laid siege to Haliartus, but was surprised by the Thebans under the walls of that city, and slain. It is said that, at the time of his death, he was involved in a conspiracy which had for its object the destruction of the exclusive right of the Heraclidae to the throne of Sparta. Lysander, though covetous of gold for the advancement of his political and military projects, died poor. He is charged however with having corrupted the aristocracy of his country by the wealth which he brought in.

LYSIAS, an Athenian orator and rhetorician, born in Athens in 458 B. C., died there in 378 B. C. In 443 he emigrated to Thurium in Italy, and there completed his education. After the destruction of the Athenian armament in Sicily, he and 800 others were expelled from Thurium by the partisans of Sparta. He returned to Athens in 411, where he was imprisoned as an enemy of the oligarchs, and, had he not contrived to effect his escape, would probably have been put to death. When Thrasybulus was organizing at Phyle that band of patriots with which he restored liberty to Athens, Lysias, then sojourning at Megara, sent him money, arms, and mercenaries. On the overthrow of the tyranny of the thirty he returned to Athens,

and henceforth chiefly devoted himself to the composition of speeches for parties engaged in litigation, sometimes however pleading in person. There formerly existed over 400 orations that were ascribed to him, but only 280 of these were admitted to be genuine. The number now extant is 85. None delivered by himself, save that against Eratosthenes, have come down to us. The best editions of his remaining works are those of J. Taylor (London, 1739), C. Förtsch (Leipsic, 1829), and J. Franz (Munich, 1831). There is an English translation of some of the principal orations of Lysias by Dr. Gillies.

LYSIMACHIA, a genus of plants arranged under the natural order of *primulaceae*. They are of a perennial, herbaceous nature, have entire leaves and axillary or racemed flowers, and the color of the corollas is for the most part yellow. The species belong to the northern portions of Europe and of America. Several are cultivated as garden plants, the most popular of these being the moneywort (*L. nummularia*), with a prostrate, creeping stem, solitary axillary flowers, and ovate acute sepals. The leaves are roundish and opposite to each other. It is a pretty plant for covering rock work, or for the purpose of suspension in a wire basket or some hanging ornamental design from which its pendent stems can droop. There are several species of *lysimachia* in this country, known more familiarly as the loosestrifes. One with a tall stem on which the leaves are arranged in whorls in fours and fives, and with graceful, protruding yellow flowers from their axils, is the *L. quadrifolia* of Linnæus, common in moist or sandy soils. Another, with an erect stem, growing 2 or 3 feet high, with opposite, heart-oval leaves supported upon ciliate footstalks, and with large showy flowers, the *L. ciliata* (Linn.), is the most beautiful. A southern species somewhat similar, but with leaves and flowers not more than half the size, is the *L. radicans* of Hooker; it grows upon swampy river banks in western Virginia and southward. The long-leaved loosestrife (*L. longifolia*, Pursh) is to be found from western New York to Wisconsin. The species are all easy of cultivation, and are pretty garden border flowers; the foreign species are, however, strangely preferred.

LYSIMACHUS, a general of Alexander the Great, and king of Thrace, born in Pella, Macedonia, about 360 B. C., slain in battle in 281 B. C. He was the son of Agathocles, a Thessalian, and was early distinguished for valor, activity, and bodily strength. On the division of the provinces, after the death of Alexander, Thrace and the region bordering on the Danube were allotted to him. The first years of his reign were passed chiefly in wars with the neighboring barbarians, and in the extension and consolidation of his dominions; but in 315 he joined the coalition formed against Antigonus by Ptolemy, Seleucus, and Cassander. In 306 he assumed the title of king. In 303 he invaded Asia Minor, overran Phrygia, and reduced several of the Hellespontine cities. On

the approach of Antigonos, however, he retired into Bithynia, where he was joined by Seleucus, and the two confederates advanced in the spring against Antigonos and his son Demetrius. Of the ensuing campaign we know hardly any thing, except that at the battle of Ipsus, in the summer of 301 (or 300, according to Grote), Lysimachus and Seleucus completely vanquished their antagonists, and shared between them the dominions of Antigonos. Of the territory which accrued to the king of Thrace in consequence of this victory, he retained possession almost until his death, rebuilding the cities in it that had been ruined during the war, and so improving and enlarging New Ilium and the Mysian Alexandria that he came to be regarded as their founder. In 292 he undertook an expedition against the Getae N. of the lower Danube, which proved unfortunate, himself and his whole army being compelled by famine to surrender to the barbarians. Dromichætes, the Getæan chief, however, merely reprimanded his captive, and restored him to liberty. In 288 he formed a confederacy with Ptolemy, Seleucus, and Pyrrhus against Demetrius Poliorcetes (who had invaded Thrace during his absence and captivity), the result of which was that the latter lost his kingdom of Macedonia, and that Lysimachus presently got possession of it. But a domestic tragedy soon afterward led to his downfall. At the instigation of his queen Arsinoë, daughter of Ptolemy, whom he had recently married, he consented that his son Agathocles should be put to death. This cruel deed so aroused the indignation of his Asian subjects that they rebelled, while Seleucus, his ancient ally, to whose court the widow of Agathocles had fled, levied an army and marched to the aid of the insurgents. Lysimachus hastened across the Hellespont to encounter Seleucus. The hostile monarchs—the two last survivors of the generals of Alexander, and both almost octogenarians—met on the plain of Corus, in Phrygia, and in the battle which ensued Lysimachus was defeated and slain.

LYSIPPUS, a Greek sculptor of Sicyon in the Peloponnesus, flourished in the latter part of the 4th century B. C. He was originally a workman in bronze, and rose to great eminence in his art by the close study of nature. The estimation in which he was held is attested by the well known edict of Alexander the Great, that no one should paint him but Apelles, no one make his statue but Lysippus, and no one represent him on gems but Pyrgoteles. He made statues of Alexander at all periods of his life, and in various positions, and the equestrian statues of 25 Macedonian chieftains who fell at the battle of the Granicus. There is a tradition that the celebrated horses of Venice formed a part of this group. Lysippus probably worked exclusively in bronze, and according to Pliny executed the enormous number of 1,500 pieces of all kinds. Among the most celebrated were several statues of Jupiter, including the colossal one at Tarentum, 60 feet in height; several of Heroules,

one of which is supposed to have been the original from which the "Farnese Heroules" was made by Glycon; the sun drawn in a chariot by 4 horses at Rhodes; "Opportunity," a youth with wings on his ankles, in the act of flying from the earth; and a statue representing a bather scraping himself with a strigil, called Apoxyomenos, which was so admired by the emperor Tiberius that he caused it to be removed from the baths of Agrippa to his own palace. The Roman populace, it is said, were not appeased until the statue was restored to its former place. Lysippus rejected the conventional rules of the older statuaries, and applied himself wholly to the imitation of nature. If he idealized at all, it was on human forms, and his human heroes and demigods and portraits seem to have been his most successful subjects. He departed in various particulars from the proportions observed by his predecessors, giving his figures smaller heads and more slender bodies, whereby he said he made men as they appeared to be, while former artists made them as they were. In the elaboration of individual parts he was unsurpassed, and particularly in the execution of the hair.

LYTHRUM (Gr. *λυθρον*, gore, from the purple color of the flowers), a genus of herbaceous plants belonging to the natural order *lythraceæ*, generally with opposite, entire leaves, no stipules, axillary or whorled flowers; seeds many, without albumen, and enclosed in a two-celled pod. The lythrums are usually called loosestrifes, a name which they share with the *lysimachias*, though very characteristically distinct. The purple loosestrife (*L. salicaria*, Linn.) is a native of Europe, but is to be found in this country in wet meadows; it is a fine, tall, more or less downy plant, with large purple flowers. It is remarked abroad that the color of the flowers varies there from crimson to purple, and that the foliage, though usually smooth and green, becomes hoary and downy if the plant grows in dry places; its stature also is much dwarfed in consequence. It is sometimes cultivated for its beauty, blossoming in midsummer. There are several North American species. The *L. hyssopifolium*, or hyssop-leaved loosestrife, with a low stem 6 or 10 inches high, numerous oblong-linear leaves, and inconspicuous pale purple flowers, is found near salt marshes on the coast of New England. A very fine sort is Hunter's purple loosestrife (*L. Hunteri*, Don), a native of the East Indies, having opposite leaves and flowers of a beautiful red color. The lythrums are easy of cultivation by sowing their seeds, or by division of the roots of the perennial species. The purple loosestrife has an astringent property, which is reputed to have been found useful in inveterate diarrhoeas. A species belonging to Mexico is accounted astringent and vulnerary, a reputation belonging to the genus. The petals of the flowers of *L. Hunteri* are used in India for dyeing. The order of *lythraceæ* contains many plants of decided utility. The crape myrtle (*Lagerstræmia Indica*), a small

shrubby plant with elegant crimped petals of a rosy red color, and much admired, belongs to this order, as also the henna plant of Egypt. (See HENNA.)

LYTTTELTON, GEORGE, lord, an English historian, publicist, and miscellaneous writer, born in Hagley, Worcestershire, Jan. 17, 1709, died there, Aug. 22, 1778. He was a member of an old family of considerable property, and was educated at Eton and Oxford, and entered parliament in 1730. In 1737 he was appointed secretary to Frederic, prince of Wales, and in 1744 a lord commissioner of the treasury. In 1754 he was sworn a member of the privy council, in 1755 was made chancellor of the exchequer, and

on Nov. 19, 1757, was elevated to the peerage as Baron Lyttelton of Frankley. The last 10 years of his life were spent chiefly in retirement and literary pursuits. His principal works are: "History of the Life of King Henry II. and of the Age in which he lived" (4 vols. 4to., London, 1787); "Observations on the Conversion and Apostleship of St. Paul" (1747); and "Dialogues on the Dead" (4th ed., 1765).—His son, THOMAS, 2d Baron Lyttelton, was a young man of much ability, and was supposed by some to have been the author of the "Letters of Junius." He brought himself to a premature grave in 1779 by a life of dissipation and profligacy.

LYTTON BULWER. See BULWER LYTTON.

M

M, the 13th letter and the 10th consonant of the English alphabet. The form of the character, like that of the other English letters, is ultimately derived, though with important modifications, from the ancient Phœnician. Its position between L and N is also derived from the ancient Semitic; as in the 119th Psalm, where *Mem* is preceded by *Lamed* and followed by *Nun*. The name *Mem* in Hebrew, like the word *mayim*, probably signified water, the Ethiopic name of the letter, as well as of water, being *mai*. The letter M in English has in all positions one uniform, well known sound, as in *mine*, *camp*, *jam*. It is a liquid or semi-vowel, capable of having its sound protracted indefinitely, in contradistinction from the mutes, whose sounds cannot be thus prolonged. It is a nasal, classing with *n* and *ng*. It is a labial nasal, having the same relation to the labial mutes as *n* to the lingual mutes, and *ng* to the palatal mutes; as in *number*, *tender*, *longer* (as if written *long-ger*). The sound of M is one of the easiest to articulate, and is therefore one of the first uttered by children. It is found in all known languages, and in most of them is a prominent letter in the words for mother (*mam*, *mamma*), as Sansc. *mātā*, Gr. *μητηρ* (Dor. *μα*), Lat. *mater*, Germ. *Mutter*, Slav. *matka*, Armen. *maïr*, Heb. *em*, Chin. *mu*; for nurse, as Germ. *Amme*, Slav. *mamka*; and for breast, as Lat. *mamma*, Gr. *μαῖμα*, Armor. *mamm*. The English sound of M is that which belongs to it also in most of the European languages. In French and Portuguese, however, at the end of a word, and in most cases at the end of a syllable, it loses its sound, and has no other function than to indicate the nasality of the vowel which precedes it. No Greek word terminates with *m*. In Latin, *m* final is the more usual characteristic of the accusative singular. The ancient grammarians ascribed to it in this case a different pronunciation from that which it has elsewhere. The obscurity of this sound, perhaps only indicating the nasality of the vowel, still appears from the fact that in Latin verses *m* final, fol-

lowed by a word beginning with a vowel, does not prevent the elision of the preceding vowel. For the most part, the sound of M has come down unchanged from the earliest times. It is in almost every instance an original sound; as, for instance, Eng. *mete*, Anglo-Sax. *metan*, Mæso-Goth. *mītan*, Lat. *metior*, Gr. *μετρεω*, Sans. *ma*, Heb. *madad*, Arab. *medda*. The following are the principal exceptions, made for euphony: 1. In words of Latin origin, *n* assimilates itself to a following *m*, as *immense*, *immerse*, *commute*, for *inmensæ*, *immerse*, *commute*. So in words from Greek, *n* or a labial sometimes assimilates itself to a following *m*, as *symmetry* for *synmetry*, *lemma* for *lepma*; so also *d*, as *ammunition* for *admunition*. 2. In words both of Latin and Greek origin, *n* sometimes conforms itself to a following labial, by becoming *m*; as *imbibe*, *impend*, *embark*, *combine*, *embellish*, *symbol*, *sympathy*. 3. In words of Teutonic origin, *n* becomes *m* before a labial; as Lat. *cannabis*, Germ. *Hanf*, Eng. *hemp*. Where *m* is now silent, as in the word *mnemonics*, it once doubtless had its appropriate sound.—The Greek and Hebrew M, as a numeral, denoted 40. The Roman M, either as the initial of *mille* or as formed from a diagram composed of two Ds (DD), denotes 1,000; and this is its numerical value in English. It is sometimes used as an abbreviation for English, and more frequently for Latin words of which it is the initial.

MAB, a fairy, celebrated by Shakespeare and other English poets. The name is of uncertain origin, being variously derived from the Midgard of the Eddas, the Habundia or Dame Abonde of Norman fairy lore, and from the Cymric *mab*, a child. According to Voss, Mab was not the fairy queen, the same as Titania, this dignity having been ascribed to her only by mistaking the use of the old English word *queen*, which originally meant only a woman. Queen Mab is mentioned in Shakespeare's "Romeo and Juliet," Ben Jonson's "Satanstoe," Randolph's pastoral of "Amyntas," Drayton's "Nymphidia," and Milton's "L'Allegro."

MABILLON, JEAN, a French ecclesiastic and author, born at St. Pierre du Mont, in Champagne, Nov. 23, 1632, died in Paris, Dec. 27, 1707. Having joined the Benedictines of St. Maur, he was chosen to assist Dom Jean d'Achery in the compilation of his *Spicilegium Vetus Scrip-torum*, and subsequently edited the works of St. Bernard (2 vols. fol., 1690) in the series of the fathers published by his congregation. The ability with which he discharged this task gained him a high reputation, and the minister Colbert offered him a pension of 2,000 livres, which he refused, asking that the royal munificence might rather be shown to his order. In 1683 he was sent to Germany by Louis XIV. to collect documents relating to French history; and the applause with which his *Iter Germanicum*, a narrative of the journey, was received, induced the king to send him to Italy in 1685 to make purchases for the royal library. A result of this tour was his *Museum Italicum* (1687-'9), containing an account of the places which he visited, the rare treasures of some of the libraries, and the ceremonies of the church, beside several learned historical dissertations. While at Rome he examined the catacombs with great care, and, dissatisfied with the honors paid to some of the relics found there, wrote a letter in Latin under the title of "Eusebius of Rome to Theophilus of France, on the Veneration of Unknown Saints," which was examined by the congregation of the Index, and would have been condemned had not the author printed a new edition with alterations. Soon afterward he was selected by his superiors to refute Rancé, abbot of La Trappe, who in a recent work had condemned the custom of permitting monks to study. Mabillon's "Essay on Monastic Studies," which appeared in consequence in 1691, was equally remarkable for sound argument and good temper. His most important other works are: *Vetere Analecta* (4 vols. 8vo., 1675-'85); *De Re Diplomatica* (1681); and *De Liturgia Gallicana* (1685). He edited and published with Ruinart *Acta Sanctorum Ordinis Sancti Benedicti*, commenced by D'Achery, and published the first 4 vols. of the *Annales Ordinis Benedictini* (6 vols., Paris, 1703-'39). A collection of his *Ouvrages posthumes* (3 vols. 4to., Paris) appeared in 1724, and his "Inedited Correspondence with Montfaucon, Magliabecchi, &c.," was edited by M. Valéry (3 vols., Paris, 1847).

MABLY, GABRIEL BONNOT DE, a French ecclesiastic and publicist, born in Grenoble, March 14, 1709, died in Paris, April 28, 1785. His family name was Bonnot. Like his younger brother, the philosopher Condillac, he was destined for the church, and after studying at the seminary of Saint Sulpice in Paris was ordained subdeacon. He showed little liking for theology, and for some time was secretly employed in affairs of state by his relative Cardinal de Tencin, minister of Louis XV., conducting the most difficult negotiations and writing elaborate reports with an ability for which the minister

received all the credit. Quarrelling with his patron, however, he applied himself to literature, and in 1748 published at Geneva his *Droit public de l'Europe*, which achieved a remarkable success. It was followed by *Observations sur les Grecs* (1749); *Observations sur les Romains* (1751); *Entretiens de Phocion* (Amsterdam, 1753); *Observations sur l'histoire de France* (Geneva, 1755); *Principes des négociations* (the Hague, 1757); *De la manière d'écrire l'histoire* (1773); *De la législation* (Amsterdam, 1776); *De l'idée de l'histoire* (1778); and *Principes de morale* (1784). Having been requested by the government of Poland to prepare for them a code of laws, he visited that country in 1771, and published in 1781 a work *Du gouvernement de la Pologne*. He was also consulted by the American congress in 1788 on the preparation of the constitution, and embodied his views in his *Observations sur le gouvernement et les lois des États Unis d'Amérique* (1784).

MABUSE, JAN, a Flemish painter, whose real name was Gossaert, born in Maubeuge, Hainaut, about 1499, died about 1562. Of his early history little is known with certainty. He is said to have studied painting in Italy, after which he practised his art in various cities of the Netherlands, leading at the same time a dissipated and scandalous career. During the reign of Henry VIII. he found his way to England, and painted several of the royal family and many persons of distinction. He was the contemporary and friend of Albert Dürer and Lucas van Leyden. His most celebrated picture, the "Descent from the Cross," perished in the fire which destroyed the cathedral of Middelburg, where it was deposited. The finest of the authenticated works passing under his name is the "Wise Men's Offering," now in the possession of the earl of Carlisle.

MACADAM, JOHN LONDON, the originator of macadamized roads, born in Ayr, Scotland, Sept. 21, 1756, died in Moffat, Dumfriesshire, Nov. 26, 1836. Both his parents came of distinguished Scottish families. On the death of his father in 1770 he was sent to his uncle William Macadam, who came to America attached to the commissariat department of the army which was sent out under the earl of Loudon for the conquest of Canada, and after the peace with France had settled in New York. He placed his nephew in a counting house in that city, of which he subsequently became a successful merchant and prominent citizen. A loyalist from principle, he espoused the cause of his king when the war of the revolution broke out. During its continuance he held the appointment of agent for the sale of prizes at the port of New York, an office in which he made a considerable fortune, the greater portion of which he lost, however, at the peace of 1783, when with the other loyalists of the city he was compelled to abandon America for ever. He returned to Scotland in May of that year, and resided for a brief period at Dumcrieff near Moffat, Dumfriesshire, but soon purchased the estate of Sanchrie in the

county of Ayr. He took a prominent part in the affairs of the county, was in the commission of the peace, a trustee of the roads, and deputy lord lieutenant of the county. At the commencement of the war with France he raised a corps of artillery for the protection of Ayrshire, and received the commission of major from George III. It was in the course of his duties as a magistrate and trustee of roads in Ayrshire that Mr. Macadam's attention was first drawn to the want of scientific principle in the formation of roads. The result of his observation and studies was the elaboration of the system which has received his name. He did not, however, devote himself to bringing his system into practical operation at once, for in 1798 he was sent by the British government to the west of England to regulate and remove abuses in the victualling of the navy in the western ports, in which service he was kept till 1802, when he removed from Falmouth to Bristol. After 1827 he resided at Hoddesdon, Hertfordshire. From 1798 to 1815, when Mr. Macadam was appointed the surveyor-general of the Bristol trust, and first commenced the making of roads upon his own principles, he was engaged during all his leisure in travelling through Great Britain, and investigating the condition of the roads. In this investigation, made as a private individual and at his own expense, he travelled 80,000 miles and spent over 5 years in time and more than £5,000 in money. In 1811 he made a communication to a committee of the house of commons upon the state of the roads of the kingdom, containing the outlines of his system and directions for repairing roads. In Dec. 1815, he was appointed surveyor-general of the trust, or district of roads of Bristol, and in Jan. 1816, commenced carrying his system into operation. He met with the greatest opposition from the farmers, traders, and common people, as well as from the employees of all grades under the old system, which had brought the roads of the trust into so bad a state that most of them were then actually under indictment. So inveterate and so general was this prejudice, and so inimical were the old surveyors to the new system, that Mr. Macadam after a brief period was compelled to call upon his 8 sons, William, James, and London, to act as surveyors, having found that no person not of his own family could be depended upon to carry out the necessary details. After the benefits of the system became palpable, the rapidity of its adoption was remarkable. Within 4 years 700 miles of road in 15 different trusts were made; and within 8 years Mr. Macadam had given his personal attention and his advice and assistance to no fewer than 70 trusts in 28 different counties in Great Britain. In a few years later, out of the 25,600 miles of public roads in the kingdom, nearly seven tenths were macadamized; and at the death of the inventor of the system (1836) it is believed that there were not 250 miles of the whole not macadamized.—A road, according to Mr. Macadam, is an

artificial flooring forming a strong, smooth, solid surface, capable of carrying great weight, and over which carriages may pass without meeting any impediment. To form a true macadamized road the following principles must be fully understood and acted upon: that it is the native soil which really supports the weight of traffic; that while this soil is preserved in a dry state it will carry any weight without sinking, and that it does in fact carry both the road and the carriages; that this native soil must be rendered quite dry by a thorough draining from all under water, and a covering impenetrable to rain must then be placed over it to preserve it in that dry state; that the thickness of a road should only be regulated by the quantity of material necessary to form such impervious covering, and never by any reference to its own power of carrying weight. This covering or roof of the soil must be made of clean dry stone broken into small fragments, each not exceeding 6 ounces in weight, about the size of a pigeon's egg, which must be so prepared and laid as to unite by its own angles into a firm, compact, impenetrable body. This cannot be effected unless the greatest care be taken that no earth, clay, sand, chalk, or other matter that will hold or conduct water be mixed with the broken stone. A road perfectly made on these principles completely excludes water, and therefore never can be affected by the action of frost. The thickness of the stratum of broken stone should never be less than 7 nor more than 10 inches; and the surface should be made nearly flat, never having a greater slope from the centre to the sides than an inch in every 5 feet, which will be ample to carry off all rain. The discovery by Mr. Macadam that angular fragments of hard materials, sufficiently reduced in size, will coalesce or bind into a compacted mass of stone under the pressure of wheels, thus forming a sort of natural mosaic impenetrable to water, and the system of road making based upon it, have been of greater service and benefit to mankind than any other contribution to the science of locomotion except the invention of the steam engine.—Mr. Macadam never demanded nor received any remuneration from the various authorities, committees, and trusts by whom he was consulted, except what was freely tendered; and very many of them never even paid the expenses that they occasioned him. He never would take a contract to make or repair a road himself, nor permit any of his family to do so. He declined all offers made him to leave England and take charge of the public roads of foreign countries, especially an extremely liberal and very complimentary one from the late emperor Nicholas of Russia. In 1825 the British parliament voted Mr. Macadam £4,000 toward repaying his expenses in introducing his system, and an additional sum of £2,000 as a consideration for the benefit the nation had derived from his labors and the free gift of his invention. Even this strikingly inadequate compensation was never wholly paid. He was

at the same time offered knighthood, which he refused. The government subsequently tendered the title to his second son, James (the eldest, William, having previously died), then, and until his own death in 1852, surveyor-general of the metropolitan trust, or road district of London; and it was accepted by him against his father's advice. From this fact, added to his long service in the metropolitan trust, has arisen the erroneous statement, sometimes even made in print, that Sir James Macadam was the originator of the system invented by his father. Mr. Macadam was twice married: first, during his residence in America, to Miss Nicoll of Long island; and in 1827 to Miss De Lancey, eldest daughter of John Peter De Lancey, of Heathcote Hill, Mamaroneck, N. Y., and a sister of the Rt. Rev. William H. De Lancey, present bishop of western New York; a lady of American extraction, but who was born and resided in England.

MACANALLY, DAVID RICE, an American clergyman, born in Grainger co., Tenn., Feb. 17, 1810. He was admitted into the conference of the Methodist Episcopal church as a travelling preacher, at Abingdon, Va., in Dec. 1829. After 12 years of service on circuits and districts, he was called to the presidency of the East Tennessee female institute in Knoxville, in which post he remained 8 years. In 1851 he was appointed editor of the "Christian Advocate" in St. Louis, Mo. He had been since 1840 indirectly connected with the press in North Carolina and Tennessee. He has published various pamphlets and tracts on educational and controversial subjects, and for several years was connected with Horace Mann and others in the endeavor to improve the common school system of the country. He is the author of "Sketches of the Life and Character of Mrs. Ramsey," "Life and Times of William Patton," and "Life and Times of Samuel Patton."

MACAO, a Portuguese city on the coast of China, at the mouth of the Canton river, in lat. 22° 12' 45" N., long. 118° 35' E.; pop. about 60,000, of whom 50,000 are Chinese, and the remainder a mixed multitude of nearly all nations. The city occupies a peninsula on the S. E. side of the island of Heang-shang. A low narrow isthmus about $\frac{1}{4}$ m. wide joins this peninsula to the main island. The Chinese have built a wall across this isthmus, and formerly maintained a guard there to prevent foreigners from passing. The Portuguese territory is 3 m. in length by $\frac{1}{4}$ m. in breadth. The city is built chiefly on the acclivity of two hills around a large semicircular bay. Its white-washed houses make a pretty appearance from the roadstead, but the streets are narrow, and the Chinese population live in miserable and filthy dwellings. The best part of the place consists of a long line of well built houses on the beach, in front of which is a promenade called the Praya Grande. There are 12 Portuguese churches and several convents. The chief public buildings are the senate house, the

governor's palace, and the English factory. On the hills around the city are forts which have an imposing appearance, but are badly armed with worn-out cannon. The principal Portuguese officials are the governor, the judge, and the bishop. There is a college here for the education of Catholic priests, a grammar school in which Portuguese is taught, an English hospital, and several other benevolent institutions. The harbor of Macao has not sufficient depth of water for large vessels, which anchor in the roads E. S. E. of the city and about 5 m. distant. But little shipping is owned in the place, and the trade is carried on almost wholly by Chinese and British merchants. The climate is healthy and temperate, and the city is a favorite resort for invalids from India. Macao was granted to the Portuguese in 1585 by the Chinese emperor, in reward for their services in repelling the incursions of a Japanese pirate. It had, however, been the seat of a factory before that period, and between 1553 and 1561 was the residence of the poet Camoens, who held a small judicial office there, and wrote a part of the "Lusiad" in a grotto in a garden behind the city. Macao was for a long period the seat of a great trade, not only with China, but with Japan, the Philippine islands, and Indo-China. It dwindled with the decline of the Portuguese power in the East, and is now of little commercial or political importance.

MACAQUE, a name given to several quadrumanous animals intermediate between the long-tailed monkeys and the baboons, constituting the genus *macacus* (Lacép.), characterized by a facial angle of 40° or 45°, elongated muzzle, distinct superciliary ridges, long and large canines, short tail, and rather compact form. The common macaque (*M. cynomolgus*, Lacép.) is olive brown above and grayish white below, with black feet; it inhabits the interior of Africa, and, according to Geoffroy, the island of Java. It has the coloring and the comparatively long tail of the guenons, but the heavy and strong form of the baboons; the general position is on all fours or seated on the ground, taking food either by the hands or immediately by the mouth, filling the ample cheek pouches before swallowing anything. The wanderer, or lion-tailed monkey (*M. Silenus*, Lacép.), from the Indian archipelago, is black above, with grayish longer hair on the back of the neck and a gray beard; under parts gray; tail with a tuft at the end; it is about as large as a spaniel dog, living in the woods, feeding on roots and leaves, and of harmless disposition. The pig-tailed macaque (*M. rhesus*, Geoffr.), from eastern India, is grayish green above, with short tail, golden yellow nates, and gray extremities. The brown baboon (*M. nemestrinus*, Geoffr.), from Java and Sumatra, is deep brown above, with a black dorsal stripe, tail slender and reaching to the middle of the thigh, and limbs yellowish. The black baboon (*M. niger*, Desm.) has the hair rather woolly, with a crest on the head, the tail a mere tubercle, and the muzzle

elongated. Some of these macaques have been placed in the genus *inuus* (Ouv.), which includes the Barbary ape (*I. syriacus*, Geoffr.), the tailless species living wild upon the rock of Gibraltar, and the only one found in Europe. This, with the last named species, leads to the *cynocephal* or dog-faced baboons. These monkeys are frequently seen in menageries, and, when taken young, are easily tamed; less active than ordinary monkeys and more powerful, they have not the ferocity and disgusting habits of the baboons. (See APE, and BABOON.)

MACARONI (Ital. *maccheroni*), a peculiar paste or dough prepared from wheat flour and manufactured into tubes or ribbons. It is an Italian invention, and, though made by a simple process, has never been produced with so great success in any other country. The samples from France at the great exhibition of 1851 were nearly equal to those from Italy; the English samples were inferior. The grain grown in the more southern countries of Europe is said to possess a greater amount of gluten, and is therefore better adapted to this manufacture. The wheat, after being washed in the mountain streams, is freed from the husks and ground in water mills, when hot water is added till it is of the consistency of stiff dough. Five different qualities of flour are obtained by an equal number of siftings, the last giving the finest and most delicate that can be made. It is kneaded by means of a wooden pole attached to a post fixed in the ground, and worked up and down as a lever, under one end of which the paste is placed; or by another and less agreeable process of piling up the dough and treading it out with the feet, after which it is rolled with a heavy rolling pin. To reduce the dough to tubes or ribbons, a hollow cylindrical cast iron vessel is used, having the bottom perforated with holes or slits. When this is filled with the paste, a heavy iron plate is driven in by a powerful press, which forces the paste through the holes, and gives it the shape of the perforations, the workman cutting off the pieces of the desired length as they come through. During this process it is partially baked by a fire made under the cylinder. Sometimes the flat pieces are formed into tubes by uniting the edges before they are thoroughly dry. After being hung up for a few days they are ready for use. The largest tubes are called *maccheroni*, the smaller *vermicelli*, and the smallest *fedelini*. Macaroni is prepared for the table by boiling and baking with grated cheese, and is in common with vermicelli and the other varieties much used in the preparation of soups.

MACARONIC POETRY, originally a species of Latin verse, in which words of a modern language furnished with Latin terminations were intermingled; afterward, in general, any verses exhibiting a medley of languages. The invention of macaronics is usually attributed to Teofilo Folengo, called Merlino Cocciajo (1491-1544), a learned and witty Benedictine, and friend and contemporary of Sannazzaro. They existed be-

fore him, but he first gave to them poetic excellence. His principal poem, *Macaronæa*, a burlesque mixture of Latin, Italian, Tuscan, and plebeian words and forms, satirically narrates the adventures of its hero until he finally arrives in hell. In his *Apologetica* to the work he describes the new species of poetry, deriving the name from macaroni, because, like that mélange of paste, butter, cheese, and spice, it should be coarse and popular. The oldest German macaronic poem is the *Floia, Cortum versicale de Floia swartibus, illis Deiriculis, qua omnes fere Minechos, Mannos, Weibras, Jungfras, etc., behuppere et spitzebus suis schnapfis steckere et bitters solent. Autore Grifholdo Knickknackio ex Flolandia*, which since 1593 has been often reprinted. Another German macaronic is entitled *De Lusitate Studentica*. Molière gives examples of French macaronic verses in *Le malade imaginaire*; and Rabelais, who often mentions Merlin the cook (Coccaie), employed this style in French prose. It prevailed in England as early as the reign of Henry II., and specimens exist from Walter de Mapes to John Skelton.

MACARTHUR, DUNCAN, an American pioneer and statesman, born in Dutchess co., N. Y., June 14, 1772, died in Ohio in 1840. His family removed in 1780 to the western frontier of Pennsylvania, where he was early inured to the labors and privations of border life. At 18 years of age he left his father's house to seek his fortune in the wilderness, and participated as a ranger or scout in the warfare with the Indians in Kentucky and Ohio, until the victory of Gen. Wayne in 1797 gave peace to the western country. About the commencement of the present century he settled in Ohio as a surveyor, and soon acquired a large landed estate. Subsequently he became a member of the Ohio legislature, and was appointed major-general of the territorial militia. In the war of 1812 he received the commission of brigadier-general in the army, and after serving for two years as second in command succeeded Gen. Harrison in 1814 in command of the army of the West. In the latter part of this year he projected and partly accomplished a bold plan of conquering Upper Canada, which he was obliged to relinquish from a failure of the forces of Gen. Izard to cooperate with him. After the peace, as a joint commissioner with Gen. Cass, he negotiated the treaty with the Indians of Ohio for the sale of their lands in that state, which was ratified in 1818. He subsequently served again in the Ohio legislature, and in 1823-'5 was a representative in congress from that state. In 1830 he was elected governor of Ohio, which position he occupied until 1833. During his term of office he met with an accident which made him a cripple, and the effect of confinement upon one accustomed from youth to an active life so affected his health that reason gave way, and for the last few months of his life he was insane.

MACARTNEY, GEORGE, earl, a British diplomatist, born in Lissanourne, near Belfast, May

14, 1787, died in Ohiswick, England, March 31, 1806. He was graduated at Trinity college Dublin, in 1759, and in the same year entered himself as a law student at the Inner Temple, London. In 1764 he was appointed envoy extraordinary to the court of Russia, with which country he succeeded in concluding a commercial treaty. In 1769 he was made chief secretary for Ireland, and distinguished himself in the Irish parliament, to which he had been returned, by his contests with leaders of the patriot party. In 1772 he resigned his Irish secretaryship, and in 1775 became governor of the island of Grenada, which he held till 1779, when, being compelled to surrender that possession to the French, he was sent prisoner to France. Having been exchanged, he returned to England, and was appointed governor of Madras in 1780; but ill health constrained him to resign this office in 1786, and to decline that of governor-general of India to which he had been nominated before his arrival in London. In 1792 he was appointed ambassador extraordinary to the court of Peking, being the first English envoy ever sent to China. He was next made first British governor of the Cape of Good Hope, but declining health soon obliged him to return to England. In 1776 he was created baron, in 1792 viscount, and in 1794 Earl Macartney in the Irish peerage, while in 1796 he was honored with a British barony. An account of his Chinese embassy, by Sir George Staunton, who had been secretary to him, appeared in London in 1797 (2 vols. 4to.). His life, with selections from his writings, by Sir John Barrow, was published in London in 1807 (2 vols. 4to.).

MACASSAR, or **MANGKASSAR**, a Dutch settlement at the S. extremity of the S. W. peninsula of the island of Celebes in the Malay archipelago, in lat. 5° 7' 45" S., long. 119° 21' 31" E.; pop. about 20,000. The name is also given to a government comprising all the Dutch possessions on the island, with a population of about 520,000. The town is situated about 800 feet from the beach, in a beautiful plain bounded inland by a range of mountains. It has a pier at the end of which there is 15 or 16 feet of water. The streets are wide, regular, and well built, most of the houses being of European construction. One street is set apart for the Chinese. The town is defended by Fort Rotterdam, a work of considerable strength, and surrounded by palisades, with gates which are closed at night. The climate is healthy, and storms are seldom experienced. Beside fisheries of tripan on the N. coast of Australia, and a large native traffic with almost every commercial place in the neighboring waters, Macassar has imports of piece goods, fire-arms, ammunition, cutlery, and woollens from the Netherlands, and nankeens, silks, sugar, tea, porcelain, &c., from China. It exports rice, cloves, nutmegs, sago, cotton wool, tortoise shell, and wax. It was made a free port by the Dutch in 1846. —The name Macassar or Mangassa is properly that of a people inhabiting the S. part of the

island, and having a language of their own with a written character. They are comparatively civilized, and soon after the first visit of the Portuguese in 1525 became the dominant people of Celebes. They embraced Mohammedanism, which they forced upon the Bugia, the other principal race of the island. In 1669 they were subdued by the Dutch, who had recently driven out the Portuguese. They were themselves expelled by the British in 1810, but Macassar was restored to them with their other possessions in 1816.

MACASSAR, STRAIT OF, a channel connecting the seas of Celebes and Sunda, and separating the island of Celebes from that of Borneo. It is about 350 m. long and from 50 to 140 m. wide, and runs N. and S. During the N. winds of January and February a strong current runs through it toward the S. Its navigation is obstructed by shoals and rocks.

MACAUO. See **LEMUR**.

MACAULAY, CATHARINE (SAWBRIDGE), an English authoress, born in Kent in 1733, died in London in 1791. In 1760 she was married to Dr. George Macaulay, a London physician. She was an ardent republican, and a great admirer of Washington, with whom she corresponded, and whom she visited in 1785. Her principal works are: "History of England from the Accession of James I. to the Revolution" (8 vols. 4to., London, 1763-'71); "Reply to Mr. Burke's Pamphlet, entitled 'Thoughts on the Causes of the Present Discontents'" (London, 1770); "A Modest Plea for the Property of Copyright" (London, 1774); "Address to the People of England, Scotland, and Ireland on the Present Important Crisis of Affairs" (Bath, 1775); "Series of Letters on English History from the Revolution to the Resignation of Walpole" (Bath, 1778); "Treatise on the Immutability of Moral Truth" (London, 1783); and "Observations on the Reflections of E. Burke on the Revolution in France" (London, 1790). Her "History of England" was received with favor on its first appearance, but is now little esteemed.

MACAULAY, THOMAS BABINGTON, baron, an English statesman and historian, born at Rothley Temple, in the village of Rothley, Leicestershire, Oct. 25, 1800, died in Kensington, London, Dec. 28, 1859. His paternal ancestors were Scotch highlanders, and ministers of the kirk. The Rev. John Macaulay was minister of Oardross in Dumbartonshire, and was the father of one daughter, Jean, who married Thomas Babington of Rothley Temple, an English gentleman of ancient family; and of two sons, Aulay Macaulay, who was a scholar of some note, and died vicar of Rothley; and Zachary Macaulay, who became a West India merchant, and was renowned as a philanthropist, and as one of the leaders of "the Olapham sect." Zachary Macaulay married Selina Mills, daughter of a bookseller of Bristol, and the future historian and statesman was born at the residence of his aunt, from whose husband he was named. His education began at home. He then studied

under a Mr. Preston, at Shelford; and at 18 was entered at Trinity college, Cambridge. His university career was brilliant. In 1819 he gained the "chancellor's medal" for a poem on "Pompeii," the same prize in 1820 for a poem on "Evening," and the second Craven scholarship in 1821. He was a leading member of the debating society. He took his bachelor's degree in 1822, and though he did not compete for honors, owing to his distaste for mathematics, he was chosen a fellow of his college. He resided in London and Cambridge alternately during the next 4 years, taking his master's degree in 1825; and he was called to the bar at Lincoln's Inn in 1826. It was during these 4 years that he wrote several of his ballads, "The Spanish Armada," "Moncontour," "Ivry," and others, and also the earliest of his essays and critiques. These writings appeared principally in Knight's "Quarterly Magazine." His first contribution to the "Edinburgh Review" appeared in 1825, the subject being slavery, and his connection with that periodical lasted for 20 years. At that time he wrote poetical political "squibs" for the "London Times," which were attributed to Moore. His first official appointment was that of commissioner of bankrupts, which was obtained for him in the interval between the fall of the Liverpool ministry and the formation of the Wellington ministry. His first public speech was made in 1826, at the annual anti-slavery meeting in London, and its brilliancy confirmed the reputation he had acquired in the debating societies of Cambridge and the metropolis. Much was expected of him by the whig party, to which he belonged; and in 1830 he was brought into parliament by one of the chiefs of that party, the marquis of Lansdowne, for the borough of Calne. He did not disappoint the expectations of his friends. His first speech in the house of commons was made April 5, 1830, in support of the bill to repeal the civil disabilities of the Jews of Great Britain; and his second, Dec. 13, on slavery in the West Indies. During the great debates that marked the course of the reform contest in the commons, Mr. Macaulay took a part second only to that of Mr. E. Stanley (now earl of Derby) in support of liberal principles. Mr. Croker was appointed by the tories to suppress the rising whig, but was worsted in the conflict. He made 8 speeches on reform in the old parliament; and when the elections for the first reformed parliament took place, in 1832, he was returned for the populous and opulent town of Leeds. He spoke several times in 1833, his principal effort being on the East India company's charter bill, July 10, which the experienced speaker (Manners Sutton) pronounced the best speech he ever heard. He was appointed secretary of the board of control in 1833; but he resigned that office, as well as his seat in parliament, in 1834, to go out to India as a member of the supreme council. He was appointed legal adviser to that body; and as the special object of his mission was to prepare a new Indian code, he was exempted from all share in

the administration of affairs. He had 4 assistants, but the code produced was mostly his work. It contained 26 chapters, divided into nearly 500 clauses, and was published in 1838. One of his objects was to do justice to the native populations. The right of appealing from the local courts to the supreme court at the presidency had been enjoyed only by the English; but the new code provided that both natives and Europeans should have the right of appeal, but only to the highest provincial courts. This benevolent attempt drew down upon the codifier the denunciations of the English in India, who called this item of the code "the black act." The code proved a failure, and could not be applied to affairs of real life, because, the author's friends claimed, it was too good. In 1838 Mr. Macaulay returned to England; and in 1839 he was elected to parliament from Edinburgh, and was appointed secretary at war in the Melbourne ministry, with a seat in the cabinet. His first speech on resuming parliamentary life was made June 18, and was in support of the ballot. He spoke on all the leading questions that were discussed during the last two years of the Melbourne ministry; and when that ministry fell, in Aug. 1841, he went into opposition. It has been stated that, as an opposition member, his voice was not often heard; but the statement is incorrect, as he spoke on many occasions during the existence of Sir Robert Peel's second ministry. Among other speeches that he then made were two of peculiar interest to Americans, one being on the treaty of Washington, and the other on the "apprehension of offenders bill," both in 1843. On the return of the whigs to power in 1846 he was made paymaster-general. For his support of the Maynooth grant he incurred the animosity of his constituents, and failed of a reelection at Edinburgh in 1847. In 1840 a collection of his contributions to the "Edinburgh Review" was published at Boston, under the title of "Miscellanies" in 2 vols. 12mo., but omitting several of his best essays. This publication first made him generally known to the reading world. As the fruit of his residence in India, he wrote his articles on "Clive" and "Warren Hastings" for the "Edinburgh Review" in 1840 and 1842. His "Lays of Ancient Rome" were published in 1842, and, in addition to their merit as poetry, the introduction, explanations, and notes show a profound apprehension of the spirit of early Roman history. After the loss of his seat in parliament, he devoted himself to a work on English history, on which he had been some time employed. The first and second volumes of this work appeared at the close of 1848, bearing the title of "The History of England from the Accession of James the Second." These volumes, beside introductory matter, contained the history of England from the accession of James II. to the settlement of the crown on William and Mary (1685-'9), a period of only 4 years; and as the author announced his purpose to bring the history down to a time which was within the memory of per-

sons still living, a very extensive work was anticipated. The "History of England" was received by the world with as much favor and enthusiasm as ever was bestowed upon the most popular of novels. The brilliancy of its style, the range of its authorities, and its liberal tone, made it a favorite wherever a reading public exists. Some of the statements made by the historian led to controversy, as in the case of his charges against William Penn, which is not yet settled. In 1849 he was chosen lord rector of the university of Glasgow, and made his installation speech March 21. The next day, on returning thanks for the tender of the freedom of the city of Glasgow, he spoke again, and took a formal farewell of political life, on which occasion he explained the principles which had governed his course as a statesman. "The path of duty," he said, "appeared to be between two dangerous extremes—extremes which I shall call equally dangerous, seeing that each of them inevitably conducts society to the other. I cannot accuse myself of having ever deviated far toward either. I cannot accuse myself of having ever been untrue either to the cause of civil or religious liberty, or to the cause of property and law. I reflect with pleasure that I bore a part in some of those reforms which corrected great abuses, and removed just discontents. I reflect with equal pleasure that I never stooped to the part of a demagogue, and never feared to confront what seemed to me to be an unreasonable clamor. I never in time of distress incited my countrymen to demand of any government to which I was opposed miracles—that which no government could perform; nor did I seek even the redress of grievances, which it was the duty of a government to redress, by any other than strictly peaceful and legal means." In 1852 he was elected to parliament by the people of Edinburgh without a movement on his part. He neither attended a meeting, nor issued an address, nor expended a farthing. The electors thus acted in order to repair voluntarily the wrong they had done him in 1847. He resumed his place in the house of commons, but the failure of his health did not admit of his participating in debate. His last speech was that which he made at Edinburgh in 1852, on the occasion of his reelection, and that was postponed for several months on account of his illness. At the close of 1855 the 3d and 4th volumes of his "History of England" were published. They carried the work down to the peace of Ryswick in the autumn of 1697, thus covering a period of less than 9 years; and this was not complete, as the details of Scotch affairs for some time were postponed to the 5th volume. The welcome accorded to these volumes was as warm as that which had been bestowed on their predecessors, both in England and in America. His attacks on William Penn were continued in these volumes; and those on Marlborough were much increased in force. The popularity of the new volumes was deserved, for they were in no respect inferior to those

published 7 years earlier, either in their matter or their manner. His remarks on the Scotch highlands gave much offence in the country of his ancestors, and he was accused of dealing too favorably with the conduct of William III. in his narrative of the massacre of Glencoe; and in the summer of 1859 he was formally arraigned, in a series of articles in "Blackwood's Magazine," on the subjects of Marlborough, Glencoe, and the highlands. In 1857 he was chosen a foreign associate member of the French academy of moral and political sciences. In the same year he was created a peer of England, with the title of Baron Macaulay of Rothley. He is supposed to have been somewhat puzzled for a territorial designation, as his life had been passed in towns, and he did not belong to the landed aristocracy; and he took that of Rothley because he was born there, though with that place he had neither feudal nor territorial connection. His promotion was universally approved, and was held to reflect honor on the government of Lord Palmerston. It was supposed that the government wished to avail itself of his knowledge of Indian affairs, the full discussion of which was expected to take place, in consequence of the sepoy mutiny of 1857; but he never took any part in the debates of the peers. Continuing to pursue his historical labors, so far as the state of his health would permit, he died suddenly at his residence, Holly Lodge, Campden Hill, Kensington. The cause of his death was an affection of the heart, and its immediate occasion a fit of coughing. He died in a fainting fit and without pain. He was buried in Westminster abbey. A committee was formed in England (June, 1860) for the purpose of collecting a fund for the erection of his statue in Trinity college, Cambridge. The best edition of his "History" is that of 1858, in 7 volumes, containing his last touches and corrections. Several editions of his "Essays" have been published in England, and of those published in America, that in 5 volumes (Philadelphia, 1852) is the most complete. A full collection of his miscellaneous writings has recently appeared (2 vols., London, 1860).

MACAW, the common name of the large and gorgeous South American parrots of the sub-family *araina*, characterized by a large stout bill, compressed on the sides, with the culmen much arched to the prolonged and acute tip; the lower mandible is deeper than long, and broader at the base than the upper; the wings are long and pointed, with the 2d and 3d quills the longest; the tail lengthened, graduated, and each feather narrowed at the tip; tarsi short and robust, and covered with small scales; toes unequal, the anterior outer rather larger than the posterior outer. This sub-family embraces the genera *ara* (Brisson), *conurus* (Kuhl), and *enicognathus* (Gray), as given in the "Genera of Birds" by the last named author; but as the name macaw is generally given only to the first genus, this article will be restricted to the spe-

cies of *ara*, with which the genus *macrocerus* (Vieill.) is synonymous. The macaws are remarkable for their size and the beauty of their plumage; they are confined to the tropical regions of America, where they inhabit the borders of forests, keeping almost entirely in the trees and rarely coming to the ground; they climb about in search of nuts and hard fruits and seeds, which they can readily break with their powerful bills; their food is entirely vegetable, and the tongue is thick and soft; the flight is horizontal, and not elevated. Generally observed in pairs, they sometimes occur in small flocks, which utter the most piercing and disagreeable screams whenever disturbed; they are less docile than the true parrots, and can rarely be taught to articulate more than a few words in a discordant tone; they breed in hollow trees, laying generally 2 eggs, both sexes assisting in incubation; the cheeks are bare of feathers, having only a few minute plumes; the word *ara* is derived from the Indian name of the bird, and is an imitation of their ordinary cry. One of the handsomest species is the scarlet macaw (*A. macao*, Linn.), measuring 89 inches from the bill to the end of the tail; the principal color is bright red, with blue rump, vent, tail coverts, and quills, and greenish blue and yellow wing coverts; the tail, which is about two thirds of the whole length, is variegated with blue and crimson; the upper mandible is whitish, the lower one dusky, and the skin of the cheeks white and wrinkled. This magnificent bird is not uncommon in South America, and is occasionally seen in menageries. The red and blue macaw (*A. aracanga*, Gmel.) greatly resembles the last named species, but the middle of the wing coverts is bright yellow; it attains a length of 89 inches, the tail measuring 24 inches; the prevailing color is vermilion red, the wings variegated with azure blue; the lower back, rump, and tail coverts pale azure and ultramarine blue; the 4 longest central tail feathers vermilion red, the next on each side red and blue, and the rest wholly blue; the under surface of the tail deep red; iris yellow. It is widely distributed in intertropical South America, and even extends to Mexico; like other macaws, it breeds twice a year; from its size and beauty it forms a striking feature in collections, but its harsh notes render it a disagreeable companion in a private house. The blue and yellow macaw (*A. ararauna*, Linn.) is rather smaller and is less common than the two preceding; it is about 2½ feet long, of a fine blue color above, with more or less tinge of green; the lower surface from the breast downward is a light orange yellow; the cheeks are white and the bill black. It frequents woods in marshy districts, where grow the species of palm upon whose fruit it principally feeds; when taken early, it is easily tamed, and may be taught to imitate certain sounds, though not to articulate distinctly; it is easily reconciled to captivity, and has been known to breed in confinement. The green macaw (*A. militaris*,

Linn.) is of a general lively green color, with blackish brown bill, crimson forehead, reddish brown chin, blue lower back, upper tail coverts, wing coverts, and quills; the upper surface of the tail is scarlet with blue tip, the under surface and that of the wings orange yellow; the claws are strong, hooked, and black. It inhabits the warmer parts of the Andean chain, attaining an elevation of 8,000 feet, and is found also in Mexico; it attacks fields of corn and other grain in large flocks, often committing serious depredations; it also feeds upon fruits and fleshy seed vessels; it is docile and easily tamed. These birds were great favorites with the Inca Peruvians, who kept them as pets and ornamented their head dresses with their feathers.

MACBETH, a Scottish chieftain in the 11th century, and the hero of one of Shakespeare's tragedies. The story of Macbeth as given in the tragedy is founded on legends which are widely different from what appears to be the true history as investigated by modern criticism. In reality Macbeth seems to have been the vassal of Thorfinn, a Norwegian prince who had conquered the north of Scotland. King Duncan, in the absence of Thorfinn, invaded the latter's territories, which were defended by Macbeth, who defeated and killed Duncan in a battle near Elgin in 1040. Macbeth was then proclaimed king of Scotland, and reigned for 17 years, till in 1057 Malcolm, the son of Duncan, assisted by an English force under Siward, earl of Northumberland, invaded Scotland and regained his father's throne, after a battle in which Macbeth was killed.

MACCABEES. See ASMONEANS, and HEBREWS.

MACCABEES, Books of, the collective title of 4 works belonging to the Old Testament Apocrypha, and containing principally the details of the struggles of the Jews against the religious and civil tyranny of the Syrian kings in the heroic period of the Maccabees or Asmoneans. The books are connected only by their subjects, written by various authors, and of widely unequal literary merit. The 2 first in order are declared canonical by the councils of Florence and Trent, and are also contained in the original translation of Luther. The 1st book of Maccabees contains a narration of the persecution of the Jews under Antiochus Epiphanes, their revolt under Mattathias and his sons, the death of that old priest, the victories and death of his son Judas Maccabeus, and the wars and death by assassination of the two brothers and successors of the latter, Jonathan and Simon, and concludes with the succession of Simon's son John Hyrcanus. It embraces a period of 40 years (175-135 B. C.). In order of time this is the last of the 4 books. Its narration is lucid and brief, and there is little doubt that it was originally written in Hebrew. The author is unknown, but he is supposed to have lived in Egypt, and to have belonged to the Pharisees. According to Bertholdt, De Wette, and Ewald, he wrote his

work shortly after the death of John Hyrcanus (106). The Greek text of the Septuagint version is the original of all others extant. Jerome says that he saw the original Hebrew. The book is highly valued by the fathers of the church, as well as by Jewish and Christian historians.—The 2d book is superior to the former in the purity and elegance of its language, which is believed to have been originally Greek. It professes to be an abridgment of an earlier historical work by a Jewish writer of Cyrene named Jason, relates the principal events of Jewish history in the reigns of Seleucus IV., Antiochus Epiphanes, and Antiochus Eupator, a period of 15 years, partly covered by the contents of the 1st book, and contains beside some letters which are held by many commentators to be spurious. The historical epitome, which commences with the attempt of one Syrian general Heliodorus to rob the treasury at Jerusalem, and closes with the death of another, Nicanor, contains some valuable additions to other extant authorities on that period. This book is the 2d also in order of time. The precise age of both the author and his predecessor Jason is unknown; the former is supposed to have written about the middle of the 2d century B. C. Luther in his preface to the translation is severe in his judgment on this book, while he regards the 1st as hardly inferior to the histories of the Protestant canonical Scriptures.—A still lower opinion is generally entertained by Protestant theologians, as well as critics, of the contents of the 3d book of Maccabees, the 1st in order of time, which gives an account of a sacrilegious attempt of Ptolemy Philopator, after his victory over Antiochus the Great at Raphia (217 B. C.), to enter the holy of holies in the temple of Jerusalem, which was baffled by a miracle, and of a subsequent equally abortive attempt of the same king to have his Jewish subjects crushed by elephants in the hippodrome of Alexandria. The author and his age are unknown, and the book is in no way entitled to rank among the histories of the Maccabean struggle. It was written in Greek; and beside the Latin and other versions, there is also one in Syriac.—The 4th book, the 3d in order of time, contains an amplification of the history of the martyrdom of Eleazar and of the 7 sons of Hannah, the so called Maccabees, whose deaths are also described in the 2d book; it is generally supposed to be the same with the "Supremacy of Reason," attributed to Josephus by Jerome, Eusebius, and others.—Beside these 4 books, there is a 5th extant in Arabic and Syriac, by an unknown author, translated probably from Hebrew, which, like the 2d book, commences with the attempt of Heliodorus, but brings the history of the house of the Asmoneans down to its extermination by Herod the Great. The translators seem to have lived after the destruction of the temple of Jerusalem by Titus. Only the first two books of Maccabees are printed in the Apocrypha of King James's version.

MACOALL, EDWARD R., a captain in the U. S. navy, born in South Carolina, died in Bordentown, N. J., in 1853. He entered the service as a midshipman in Jan. 1808, became a lieutenant in March, 1813, master commandant in March, 1825, and captain in March, 1835. He was 1st lieutenant of the brig *Enterprise* in her engagement with H. B. M. brig *Boxer* upon the coast of Maine, Sept. 14, 1813. When his commanding officer, Lieut. Comdt. Burrows, fell mortally wounded, Lieut. McOall continued the engagement until the *Boxer* surrendered. Both brigs were carried into Portland by him. He received a gold medal from congress "in testimony of his good conduct" on this occasion.

MACCHIAVELLI, NICCOLO, an Italian author and statesman, secretary of the Florentine republic, born in Florence, May 5, 1469, died there, June 22, 1527. His father, Bernardo Macchiavelli, was a lawyer who traced back his ancestry to Hugo, marquis of Tuscany, about the middle of the 9th century; his mother, a woman of talent and a poetess, was descended from the counts of Borgo Nuovo, who flourished in the 10th century. Many of his ancestry on both sides had filled the most important offices in the republic of Florence; of the Macchiavellis 13 had held the post of gonfaloniere of justice, and 53 that of prior. On June 19, 1498, Niccolo entered the service of the state, having been chosen to the office of chancellor of the second chancery of the seignior. In the following month he was appointed secretary to the "ten of liberty and peace," a body of magistrates to whom was intrusted the supreme government. In this office, to which he owes his title of secretary of the Florentine republic, he continued 14 years. The position of Florence at that period was one of great importance, notwithstanding the small size of her territory; and the relations of the republic with the principal powers of Europe were such as required the highest qualities of statesmanship for their proper conduct. Macchiavelli was charged with the political correspondence of the government, both foreign and domestic, and with a wide range of diplomatic functions. He was employed in 23 foreign embassies, among which were 4 to the court of France and 2 to the emperor Maximilian. He was also intrusted with various commissions to the cities dependent on Florence. His first mission was to France in 1500, and his 4th and last to that court was in 1511. In 1502 he was envoy from the republic to Cesare Borgia, duke of Valentino; and in 1507 he was sent ambassador to the emperor. His correspondence with his government during these missions was extensive, and his despatches are models of diplomatic style. They form one of the most instructive and entertaining collections of state papers that have ever been published. The men, the events, and the hopes and fears of the age are depicted with masterly force and clearness, with an animation that never flags, and with remarks always shrewd and judicious. In the internal administration of Flor-

ence, the sagacity and energy of Macchiavelli were as conspicuous as in his diplomatic correspondence. The practice of employing mercenary troops he regarded as one great cause of the weakness of the Italian states; and having studied in all its details the art of war, he exerted himself with ardor to organize a national militia, which for a time acquitted itself successfully in the field. But, distracted by faction and embarrassed by the weakness and vacillation of the chief magistrate Piero Soderini, who had been made gonfaloniere for life, the republic was unable long to contend with her formidable enemies, the pope and the emperor, who had combined to restore the Medici by force of arms. The military and political institutions of the republic were swept away together, and in 1512 the Medici returned in the train of foreign invaders from their long exile. Though his project of a national militia had failed to preserve Florence from her own dissensions and the overwhelming force of her enemies, Macchiavelli clung to it with patriotic tenacity. To vindicate it from some popular objections, and to refute some prevailing errors on the subject of military science, he wrote at this time his work on the "Art of War," which however was not printed till 1521. This treatise is in the form of a dialogue between Cosimo Rucellai, a Florentine gentleman, and Fabrizio Colonna, a Roman nobleman and an officer of distinguished merit in the service of Ferdinand of Spain. It is an able and interesting book, and proposes for Italian imitation the arms and tactics of the Swiss and Spaniards, at that time the best soldiers of Europe. It prefers infantry to cavalry, and fortified camps to fortified towns, and recommends the substitution of rapid movements and decisive engagements for the languid and dilatory operations of the Italian commanders of that day. Its theories attracted so much regard from military men, that to this treatise is attributed the return to sound tactics in the armies of Europe and the subsequent perfection of the art of war. The new government soon began to persecute Macchiavelli, whose ability and reputation made him an object of dread. Three decrees were passed against him within the course of 10 days. By the first two he was deprived of office and condemned to a year's banishment from the city; the third decree mitigated his sentence to a simple prohibition to enter the palace of the signiory. He went into retirement, but the freedom with which he spoke and wrote on public affairs displeased the government; and in the following year he was accused, apparently without reason, of being concerned in an extensive conspiracy just discovered against Cardinal de' Medici, afterward Leo X., and was thrown into prison. He was put to the torture, but confessed nothing. For some time he was kept chained in a dungeon, but soon after the accession of Leo X. to the papacy in 1513 he was included in an amnesty and was liberated. That pope, who possessed great influence in the government of

Florence, and admired Macchiavelli's literary merit, at length began gradually to recall him to public life. He consulted him on various important affairs of state, and invited him to prepare a plan for the government of Florence. In 1521 he sent him on a mission to the Franciscan friars at Oarpi. He was next employed to direct the new fortifications of Florence, and subsequently was sent to Venice on a mission of importance. While there he received the welcome tidings that his name had been again inserted in the list of citizens of Florence who were held eligible to office. A brilliant political career now opened before him. He found in Pope Clement VII. a firm friend and protector, and was employed in negotiations where his profound judgment, matured by misfortune, study, and experience, and his unrivalled sagacity and energy, peculiarly qualified him to shine. Disease, however, put a sudden end to his labors. His last employment was in the army of the league against Charles V., after which, returning to Florence, he was seized with violent pains in the stomach, to which he was much subject, and died after having received all the sacraments of the church. His body was interred in Santa Croce, where two centuries afterward an English nobleman, Earl Cowper, erected a monument to his memory. In person Macchiavelli was of ordinary size, of an olive complexion, and an expressive and animated physiognomy. He was simple and lively in conversation, and prompt and piquant in repartee.—Of the writings of Macchiavelli, the most celebrated is the treatise commonly called *Il Principe*, "The Prince," which was written about 1514 and printed in 1532. This work, until recently, was almost universally condemned as designed to teach the vilest arts of despotism, and to present as a model sovereign of an absolute state the perfidious and ferocious Borgia. Scarcely any book of ancient or modern times has been so violently assailed or has excited so much discussion and controversy. The terms in which its author was commonly described, says Macaulay in the "Edinburgh Review," "would seem to import that he was the tempter, the evil principle, the discoverer of ambition and revenge, the original inventor of perjury; that before the publication of his fatal 'Prince' there had never been a hypocrite, a tyrant, or a traitor, a simulated virtue or a convenient crime. One writer gravely assures us that Maurice of Saxony learned all his fraudulent policy from that execrable volume. Another remarks that since it was translated into Turkish the sultans have been more addicted than formerly to the custom of strangling their brothers. Our own foolish Lord Lyttelton charges the poor Florentine with the manifold treasons of the house of Guise and the massacre of St. Bartholomew. Several authors have hinted that the gunpowder plot is to be primarily attributed to his doctrines, and seem to think that his effigy ought to be substituted for that of Guy Fawkes in those processions by which the

ingenuous youth of England annually commemorate the preservation of the three estates. The church of Rome has pronounced his works accursed things. Nor have our own countrymen been backward in testifying their opinion of his merits. Out of his surname they have coined an epithet for a knave, and out of his Christian name a synonyme for the devil." The researches of modern Italian scholars, and a better consideration of the political state of Italy in the 15th century, have at length established the true object of "The Prince," and vindicated in some measure the name of its author from the opprobrium heaped upon it. The work is a scientific account of the art of acquiring and preserving despotic power, and is a calm, unvarnished, and forcible exposition of the means by which tyranny may be established and sustained. If it be a guide to princes desiring to become despots, it is also, as Macchiavelli himself remarked, a guide to the people who wish to destroy tyrants. It weakens despotism by exposing its most subtle secrets. At the same time it exhibits an obliquity of moral principle on the part of its author, so far as political matters are concerned, which can only be palliated by alleging that dissimulation and treachery were universally looked upon in Italy, and indeed throughout Europe in his day, as legitimate political weapons, whose use was creditable to the acuteness and not discreditable to the character of those who were able to wield them with skill and success. Crimes which required for their perpetration self-command, address, quick observation, fertile invention, and profound knowledge of human nature, were regarded with a sort of admiration by nearly all the contemporaries of Macchiavelli. Both his personal character and his works were held in the highest estimation by the most respectable of his countrymen, and in his own day "The Prince" did not affect injuriously his reputation either as a moral man or as a republican. As a statesman his conduct was upright and honorable, and his views of morality, where they differed from those of the persons around him, differed for the better; while his only fault seems to have been that, having adopted some of the maxims then generally received, he arranged them more luminously and expressed them more forcibly than any other writer. About a year after the composition of "The Prince" Macchiavelli wrote "Discourses on the First Decade of Livy," divided into 3 books. The 1st book is devoted to an examination of the domestic government of Rome; the 2d to that of the means by which the power of the republic was extended and preserved without the city; while the 3d passes in review, one by one, particular actions of private individuals, in order to examine their influence upon the progress of power and upon the moral character of the nation. Throughout the whole work he labors to prove that the revolutions of power in every age have depended upon causes which were similar in themselves, although variously

modified by circumstances peculiar to the nation or the period. The work abounds in new and profound ideas supported by clear and powerful reasoning, and has been largely used without acknowledgment by many subsequent historians and political writers. Several years later Macchiavelli began a history of his native republic under the title of "Florentine Histories." This work traces in rapid and animated narrative the revolutions of Italy from the reign of Theodosius to the council of Constance; it then follows in detail the history of Florence from the foundation of the city to the death of Lorenzo the Magnificent in 1492. Like all the writings of the author, this work is remarkable for logical power and for beauty of style. It is said to have had more influence upon Italian prose than any other work except the Decameron of Boccaccio. Beside his prose works, Macchiavelli wrote several poems of no great merit, and 8 or 4 comedies, of which the best is "The Mandragola," which was acted in Florence with the greatest success. "It is the work of a man," says Macaulay, "who, if he had devoted himself to the drama, would probably have attained the highest eminence, and produced a permanent and salutary effect on the national taste."—The fullest and best edition of the works of Macchiavelli was published at Florence in 1818, in 8 vols. 8vo. The "History of Florence," "The Prince," and various historical tracts, are in Bohn's "Standard Library" (1 vol. 12mo., London, 1847). A new edition is now (1860) in progress at Florence. Several of the writings of Macchiavelli were early translated in England (1560–1600).

MACCOLESFIELD, a market town and municipal and parliamentary borough of Cheshire, England, 167 m. by railway N. W. from London; pop. in 1851, 39,048. It is pleasantly situated on the river Bollin, and on a declivity near Maccolesfield forest. The staple manufacture is silk, which gives employment to about 70 mills. The cotton manufacture is also important. A canal which unites the Grand Trunk and the Peak Forest canals passes near Maccolesfield, and opens water communication with most parts of England. The borough returns two members to parliament.

MACCOLINTOCK, SIR FRANCIS LEOPOLD, LL.D., a British naval officer and arctic explorer, born in Dundalk, Ireland, in 1819. He entered the navy at the age of 12, and passed his examination in 1838; and after having been stationed for some time at Portsmouth as mate on the Excellent gunnery ship, Capt. Sir Thomas Hastings, he sailed to South America in H. M. steamer Gorgon, Capt. Charles Hotham. For his distinguished conduct in recovering this vessel when stranded near Montevideo he was promoted to a lieutenantancy in 1845. During the next 2 years he was with the Pacific squadron, in the Frolic, Capt. Hamilton. Returning to England about the time when anxiety began to be expressed for the safety of Sir John Franklin, he entered heartily into the schemes for

his relief, and accompanied Sir James Ross in one of the 8 arctic expeditions sent out by the admiralty in the spring of 1848. He reached home again in Nov. 1849, after an absence of 19 months, and early in the following year joined another expedition under Capt. H. T. Austin, as first lieutenant of the Assistance, Capt. Ommaney. It was his fortune, in Aug. 1850, to see at Cape Riley the first traces of the missing mariners. (See *ARCTIC DISCOVERY*, vol. ii. p. 57.) In April, 1851, while the ships were fast in the ice in Crozier channel, he made a sledge journey of 80 days along the N. shore of Parry sound, travelling 760 m., and reaching the most westerly point which has yet been attained in the arctic regions. The comparative perfection to which sledge travelling has recently been carried is mainly due to the improvements which he effected. The squadron returned to England in the autumn of the same year, and Lieut. McClintock was at once promoted to the rank of commander. The following spring saw him in command of the Intrepid, one of the 5 vessels sent out to the polar regions under Sir Edward Belcher. In accordance with instructions from the admiralty, he sailed, in company with Capt. Kellett, toward Melville island in search of McClure, whom he rescued from a 8 years' imprisonment in the ice; but he was subsequently compelled to abandon his own ship with 8 others of Belcher's fleet, the whole expedition reaching home in Sept. 1854, some in their single remaining vessel and the rest with Capt. Inglefield. McClintock's services were recognized by his promotion to the rank of captain, but he did not obtain active employment until in 1857 Lady Franklin, having resolved to send out a vessel at her own expense for a fresh search, offered him the command of the proposed expedition. The screw steamer Fox, of only 177 tons, formerly the pleasure yacht of Sir Richard Sutton, was purchased for £2,000, refitted, and equipped with a crew of 24 volunteers. The total cost was £10,412, all of which was defrayed by Lady Franklin, except £2,981 raised by private subscription. Capt. Allen Young of the merchant service contributed £500, and also acted gratuitously as sailing master. Lieut. (now Commander) W. R. Hobson, Dr. David Walker, and Carl Petersen, interpreter, so favorably known as the companion of Dr. Kane, were the principal other members of the party. The little vessel left Aberdeen on July 1. McClintock's plan was to examine a tract about 800 miles square lying W. of Boothia, and between the northern limits of the explorations of Rae and Anderson and the southern boundaries of those of Sir James Ross, Austin, and Belcher, while to the W. he expected to penetrate as far as the track of Collinson and McClure. (See *ARCTIC DISCOVERY*.) This course would enable him to follow up the clue found by Mr. Anderson, who ascertained in 1855 that a portion of the missing crews had been on Montreal island at the mouth of the Great Fish or Back's river. Having pur-

chased 85 Esquimaux dogs at Disco, on the coast of Greenland, and taken on board two of the natives as drivers, the Fox pushed on toward Lancaster sound until on Aug. 17 she was beset in Baffin's bay nearly opposite the entrance to that channel. For 8 months the ice held her fast, but the moving pack meanwhile carried her back upon her course, and when finally released, April 25, 1858, she had drifted 1,895 m. to the southward. McClintock refitted at Holsteinborg, arrived in Lancaster sound, July 12, sailed through Barrow strait, and attempted to pass down Peel sound, between North Somerset and Prince of Wales Land; but having been stopped here by the ice, he passed around North Somerset in the hope of reaching the mouth of the Great Fish river through Bellot strait, which is the water communication between Prince Regent's inlet and the Western sea (now known as Franklin strait), and separates the North American continent from North Somerset. He found the strait obstructed by moving ice, but after much difficulty and danger pushed through it on Sept. 6. A frozen barrier stretched across its western end, and here the Fox remained moored for 3 weeks, when she took up her winter quarters at Port Kennedy, on the N. shore of the strait. In the mean time extensive sledge journeys were undertaken; Lieut. Hobson carried out provisions toward the magnetic pole, Capt. Young established a depot on the further side of Franklin strait, and McClintock and Petersen travelled southward in the hope of gathering some information from the natives. On March 1, 1859, McClintock met a party of Esquimaux near Cape Victoria, and learned from them that several years before a ship had been crushed in the ice and sunk in deep water off the N. W. shore of King William's island. Her people went away to a great river, where they all died of starvation, and their bodies were found the next year. It was impossible to obtain any information respecting the number of white men, or the length of time since they left the ships. Another interview with some of the natives in April confirmed these statements, and threw light upon the fate of Franklin's second vessel, which they said drifted ashore at King William's island. The skeleton of one man was found on board. Sending Hobson to search for the wreck, McClintock explored the E. shore of King William's island, and on May 7 came upon a village of Esquimaux, from whom he learned that when the white people marched toward the great river "many of them dropped by the way," and their bodies were found the next winter; some were buried and others were not. Point Ogle, Montreal island at the mouth of Great Fish river, and Barrow inlet were searched, with no better success than the discovery of a few scraps of iron, tin, and copper; and McClintock, having now reached the track of Anderson and Stuart (1855), resolved to follow the S. and W. coasts of King William's island until he met Hobson. The first trace of the long lost crew was found near Cape Herschel,

the W. limit of Simpson's explorations. It was a bleached skeleton lying at full length on the beach; fragments of European clothing, a pocket book, and a few letters were picked up about it. A day's march N. E. of Cape Crozier the party came across a boat fitted to a sledge and apparently prepared for navigating the river. In it were 2 skeletons, 2 loaded guns, and various other relics, including Sir John Franklin's silver plate, beside fuel, ammunition, chocolate, tea, and tobacco. Its head was turned toward the abandoned ships, from whose first position it was about 65 m. distant. A record was also found which had been left here 5 days before by Hobson, who in the mean time had made still more interesting discoveries. After separating from McClintock he had tracked the N. and W. shores of King William's island almost to Cape Herschel. Near Cape Felix, the northernmost point of the island, he found a ruined cairn, 3 tents, and other traces of Franklin's party, but no record; 2 smaller cairns were afterward examined, and on May 6 a large one was observed at Point Victory, where Sir James Ross had touched in 1830. Lying among some stones which had fallen from the top of the structure was a tin case enclosing a record, the first authentic account ever obtained of the history of the lost expedition. It was written on one of the printed forms used in discovery ships for the purpose of being enclosed in bottles and thrown overboard in order to ascertain the direction of the currents. It read as follows:

"28 of May, 1847. H. M. ships Erebus and Terror. Wintered in the ice in lat. 70° 5' N., long. 98° 28' W. Having wintered in 1846-'7 at Beechey island in lat. 74° 43' 23" N., long. 91° 39' 15" W., after having ascended Wellington channel to lat. 77° and returned by the W. side of Cornwallis island. Sir John Franklin commanding the expedition. All well. Party consisting of 9 officers and 6 men left the ships on Monday, 24th May, 1847. Gm. Gore, Lieut.; Chas. F. Des Voeux, Mate."

Around the margin was written in a different hand:

"April 25, 1848.—H. M. ships Terror and Erebus were deserted on the 22d April, 5 leagues N. N. W. of this, having been beset since 13th Sept. 1846. The officers and crews, consisting of 105 souls, under the command of Captain F. E. M. Crozier, landed here—in lat. 69° 37' 43", long. 98° 4' 15". This paper was found by Lt. Irving under the cairn supposed to have been built by Sir James Ross in 1831, 4 miles to the northward, where it had been deposited by the late Commander Gore in June, 1847. Sir James Ross's pillar has not however been found, and the paper has been transferred to this position, which is that in which Sir J. Ross's pillar was erected. Sir John Franklin died on the 11th June, 1847, and the total loss by deaths in the expedition has been to this date 9 officers and 15 men." JAMES FITZJAMES, Captain
F. E. M. Crozier, H. M. S. Erebus.
Captain and senior offr.
and start on to-morrow, 28th,
for Back's Fish river."

The date 1846-'7 given as that of Franklin's wintering at Beechey island is evidently an error; it should be 1845-'6. Vast quantities of clothing and other articles were found here. The wreck was not seen, nor were any more skeletons found; but this indeed was hardly to be expected, as the route toward the Great Fish

river was almost all the way over ice which breaks up in summer. Meeting no more of the Esquimaux nor further traces of the lost voyagers, and feeling certain that the whole expedition had perished, McClintock returned to his vessel, June 19, carrying a great number of relics, many of which had been purchased from the natives. Beside solving the problem which had engaged arctic enterprise for 11 years, his expedition had completed the delineation of the N. shore of the American continent; laid down the previously unknown outline of Boothia Felix and the coast of King William's island; proved the navigability of Bellot strait, the existence of which was before doubted; opened a new and capacious channel extending N. W. from Victoria strait to Parry or Melville sound, and since named at the suggestion of Lady Franklin McClintock channel; observed many interesting facts in terrestrial magnetism; and finally, proved Sir John Franklin to be the discoverer of the north-west passage. With the aid of McClintock's narrative we are now able to trace out Franklin's last voyage. During the first season it was unusually prosperous. Passing up Lancaster sound, he explored Wellington channel (then an unknown sea) to a point further N. than was reached by either Penny, De Haven, or Belcher; sailed around Cornwallis island, and wintered at Beechey island. In the spring and summer of 1846 he either navigated Bellot strait, or more probably pushed through Peel sound, reaching Victoria strait, where he was finally beset in September, and thus supplied the only link wanting to complete a chain of water communication between the two oceans. The skeletons found in the boat near Cape Crozier show that after the abandonment of the Erebus and Terror a party attempted to return, for what purpose can only be conjectured.—The Fox found herself free from ice on Aug. 9, and immediately made sail for home, reaching the Isle of Wight Sept. 20. Capt. McClintock was received with great distinction. The university of Dublin conferred upon him the degree of LL.D., the corporation of London voted him the freedom of the city, her majesty granted him the full pay of captain in the navy for the two years he was absent, and Lady Franklin presented to him the vessel in which he had made his memorable voyage. He was knighted Feb. 23, 1860, and in the spring of the same year was appointed by the government to survey a deep sea route for a proposed North Atlantic telegraph. His "Narrative of the Discovery of the Fate of Sir John Franklin and his Companions" appeared in London and Boston (U. S.) in 1860.—See also "The Search for Sir John Franklin," in the "Cornhill Magazine," No. I., Jan. 1860 (by Capt. Allen Young).

MACCLINTOCK, JOHN, D.D., an American clergyman, born in Philadelphia in 1814. He was graduated at the university of Pennsylvania in 1835, entered the Methodist ministry, and became a member of the New Jersey conference.

* These figures make the original force of Franklin's expedition 129, whereas it has commonly been stated at 138. It has been ascertained, however, that only 124 actually left England, and 5 of these subsequently returned.

After being in the pastoral office a short time, he was elected professor of mathematics in Dickinson college, Carlisle, Penn., and was transferred in 1839 to the chair of ancient languages. During his residence at Carlisle he translated in company with Prof. Blumenthal Neander's "Life of Christ," and began with Prof. Crooks a series of Latin and Greek text books, comprising "Elementary Greek Grammar," "First and Second Books in Greek," "First and Second Books in Latin," and "Introduction to Latin Style." In 1848 he was elected to the editorship of the "Methodist Quarterly Review," which office he filled until 1856, when he was appointed by the general conference, in connection with Bishop Simpson, a delegate to represent the Methodist Episcopal church in the English, Irish, French, and German conferences. He was also present as a delegate from that church to the world's convention held in Berlin during the same year. After his return he was elected president of the Troy university. In the interim of the organization of the college classes he was pastor of St. Paul's church, New York. In June, 1860, he sailed for Paris, to take charge of the American chapel there, under the auspices of the American and foreign Christian union. For several years past, in connection with Dr. Strong of the Troy university, he has been preparing a "Biblical and Theological Dictionary." He has also published "Analysis of Watson's Theological Institutes," "Temporal Power of the Pope," and "Sketches of Eminent Methodist Ministers."

MACCLURE, SIR ROBERT JOHN LE MESURIER, a British navigator, born in Wexford, Ireland, Jan. 28, 1807. He was the posthumous child of Capt. McClure, a British officer killed at the battle of Aboukir, and at the age of 4 was adopted by his baptismal sponsor, Gen. Le Mesurier, a friend of his father and a man of large fortune. He was educated at Eton, and, being destined for the army, was subsequently sent to the military college at Sandhurst, whence he deserted with 3 companions and went to France. Gen. Le Mesurier, finding him averse to a military career, then procured him a midshipman's appointment. After serving for 10 years on various stations, he accompanied Sir George Back in 1836 on his second expedition to the arctic regions as mate of the Terror, which subsequently formed part of Sir John Franklin's last expedition. Returning to England in Sept. 1837, he was promoted to a lieutenancy, and was variously employed until 1848, when he accompanied Sir James Ross on his voyage in search of Sir John Franklin. In Jan. 1850, he sailed from Plymouth in command of the Investigator, accompanied by the Enterprise, Capt. Collinson, the senior officer of the expedition, under orders to pass through Behring's straits, and thence if practicable proceed to Melville island, an achievement which had not then been accomplished by any vessel. The vessels, which were provisioned for 8 years and had each a complement of 66 men, were parted

by a gale in the straits of Magellan, and never afterward met; but McClure pressed on with the Investigator, and in July reached Behring's straits, where he met the Herald, Capt. Kellett, with which he had orders to communicate. Capt. Kellett, deeming it hazardous for a single vessel to proceed further eastward, as the senior officer on the station ordered McClure to return; but the latter, taking the responsibility upon himself, determined to push on, and when last seen, on Aug. 4, was bearing into the heart of the polar pack. For nearly 3 years from that date he and his companions remained buried from the world, and held communication with no civilized beings but themselves. Following the coast of the mainland as far as Cape Parry, the Investigator thence bore to the N. E., and on Sept. 6 land was discovered in lat. 71° 6' N., long. 123° W., which McClure, finding it an unexplored portion of Banks's Land discovered by Parry in 1820, subsequently named Baring's Land. Divided from it by a strait was another tract, which he called Prince Albert's Land. Proceeding still in a N. E. direction up this strait, to which he gave the name of Prince of Wales strait, he arrived on the 16th in lat. 78° 10' N., long. 117° 10' W., within 30 miles of that series of straits which, under the names of Melville, Barrow, and Lancaster, communicate with Baffin's bay. At this moment, when the long mooted problem of the existence of a N. W. passage seemed about to be solved, the ice pack in Melville strait was closed upon the intrepid navigators, and their further progress to the N. E. was cut off for that season. Securing the ship, after a perilous drift to the southward, in permanent quarters for the winter, McClure started on Oct. 21 with a sledge party to the northward to reach Barrow strait, and complete the discovery which he had almost accomplished in the Investigator. On the morning of the 26th they reached a hill on the eastern extremity of Banks's Land, opposite to Cape Hay in Melville island, from the summit of which as the sun rose was seen far to the north, and across the entrance of Prince of Wales strait, the frozen water of Melville strait. The existence of a water communication around the N. coast of America being thus demonstrated, McClure returned on Oct. 31 to the Investigator, narrowly escaping death from exposure and cold on the way. The winter of 1850-'51 was occupied with fruitless searches by exploring parties for traces of Sir John Franklin; and in the latter part of July, 1851, the ship once more began to move to the N. E. Again she was drifted within 25 miles of Melville strait; but finding the barrier of ice still impassable, McClure reluctantly altered his course, and proceeded around the southerly and westerly side of Banks's Land, in the hope of reaching Melville island from that direction. The voyage was attended with unusual perils, and escapes which seemed little less than miraculous; but on Sept. 24 the ship was finally brought in safety to an inlet on the N. W. side

of Banks's Land, in lat. 74° 6' N., long. 117° 54' W., near the point from which McClure in the previous October had discovered the N.W. passage, and which he appropriately named the bay of Mercy. Here the ship was almost immediately frozen in, having Melville island opposite, and the wide expanse of water variously called Melville strait, Melville sound, Parry sound, and Barrow strait, to the N. and E. This was the second discovery of a N. W. passage, the connecting link of water between Melville strait and the Arctic sea W. of it being nearly due W. of Lancaster sound. A party from the Investigator crossed the ice to Melville island in April, 1852, and left there a document describing the previous operations of McClure and his position at the bay of Mercy. The ship, however, remained fast fixed in the ice, which did not break up during that summer, and the winter of 1852-3 was passed in the same place. Provisions meanwhile became scarce, notwithstanding that the crew killed and cured many thousand pounds of venison and other food; and in March, 1853, the health of the men was so greatly impaired that McClure determined to send part of them to England *via* the Mackenzie river and the Hudson's Bay territory, and to stay by the ship with the remainder until the spring of 1854, when, if no succor arrived, he was to proceed to Melville island and thence to Beechey island, with the hope of there finding the means of conveyance home. Fortunately for him, at this juncture Capt. Kellett of the Resolute, who had some time previously arrived at Melville island, found McClure's document, and despatched Lieut. Pim to the bay of Mercy. The crew of the Investigator crossed over to the Resolute's quarters soon after, and on June 8, 1853, the former ship was abandoned by her commander, it being deemed, under the circumstances in which she was placed, impossible to save her. McClure remained with the Resolute during the ensuing summer and winter, and in April, 1854, departed with his crew in sledges to Beechey island, whither he was followed in May by Kellett, who by the orders of his superior, Sir Edward Belcher, had abandoned his ship. Finally, in the summer of 1854, the whole party, together with the crews of the Intrepid, Assistance, and Pioneer, which had also been deserted by order of Sir Edward Belcher, their commanding officer, were transported safely to England, arriving there Sept. 28, the Investigator's crew being the first which had ever entered Behring's straits and reached Europe by Baffin's bay. McClure received the £5,000 offered for the discovery of a N. W. passage, and a similar sum was distributed among the officers and crew. In 1855 he received the honor of knighthood. He has since been employed on the China station.

MACOLURG, JAMES, an American physician, born in Hampton, Va., in 1747, died in Richmond in July, 1825. He was a fellow student with Jefferson at the college of William and Mary, and was educated for the medical profes-

sion in Edinburgh and Paris. In London he published an essay on the "Human Bile," which was translated into the principal languages of Europe. Returning to America in 1773, he settled in Williamsburg, Va., whence in 1788 he removed to Hampton, where he resided until his death, which occurred in consequence of his horses running away. He wrote with ability and in a pure and elegant style on medical subjects, and occasionally produced *vers de société* of genuine merit.

MACCONNEL, JOHN L., an American author, born in Illinois, Nov. 11, 1826. He began the study of law under his father, and was graduated at the law school of Transylvania university, in Lexington, Ky. When the Mexican war broke out he entered the regiment of Col. Harding, June 6, 1846, as a volunteer private. He was soon made first lieutenant of his company, and was promoted to a captaincy after the battle of Buena Vista, where he was twice wounded. After the war he returned home and recommenced the practice of law at Jacksonville, where he has since resided. As a writer he is chiefly known by works of fiction, or sketches setting forth western American life and incident. Among these are: "Talbot and Vernon" (New York, 1850); "Grahame, or Youth and Manhood" (1850); "The Glenss" (1851); and "Western Characters" (1854).

MACCORD, DAVID J., an American lawyer and author, born in St. Matthew's parish, S. C., in Jan. 1797, died in Columbia, May 12, 1855. He was graduated at the South Carolina college, was admitted to the bar in 1818, and becoming associated with Henry J. Nott, edited with him the decisions of the constitutional court of South Carolina from 1818 to 1820, and alone from 1821 to 1823. In 1822 he became the law partner of William O. Preston. In 1824 he was elected state reporter, and he reported the decisions both of the court of appeals and of equity from 1825 to 1827. In 1825 he was made intendant (mayor) of the town of Columbia, where he welcomed Lafayette on his visit. Between 1828 and 1830 he travelled in Europe, and witnessed the revolution in Paris. He returned to Carolina during the period of nullification, entered the state legislature, and was one of the most active of those who sustained the state veto. As a trustee of the South Carolina college, he was intimate with Dr. Thomas Cooper, of whom he has left interesting reminiscences. He retired from the bar in 1836, became president of the state bank at Columbia, and in connection with Col. Blanding he started the "South Carolina Law Journal," which was not long continued. In 1839 he was appointed compiler and editor of the "Statutes at Large of South Carolina," a work which had been originally begun by Dr. Cooper. For many years a member of the legislature, McCord was long the chairman of the important committee on federal relations. He also exerted himself efficiently for the improvement of the judiciary system. In 1840 he married his second wife, a

daughter of Langdon Cheves, and from that year devoted himself successfully to agricultural pursuits as a cotton planter, relieving the monotony of this mode of life by books and authorship. His favorite topics were politics and political economy, on which he wrote many papers for both series of the "Southern Review." He also contributed to "De Bow's Review."—LOUISA S. (CHEVES), wife of the preceding, an American authoress, born in South Carolina in 1810. Soon after her marriage in 1840, she removed with her husband to their plantation at Fort Motte on the Congaree, a site famous in revolutionary annals. Her first published volume, entitled "My Dreams" (Philadelphia, 1848), had been the gradual accumulation of many previous years. In the same year she translated from the French Bastiat's "Sophisms of the Protective Policy" (New York, 1848). In 1851 she produced her tragedy of "Caius Gracchus," and she has contributed at intervals to the "Southern Review," "De Bow's Review," and the "Southern Literary Messenger." Her articles show a remarkable knowledge of facts and arguments on subjects not usually included in the studies of women.

MACCOSH, JAMES, LL.D., a Scottish clergyman, born about 1810. He was settled at Brechin, a parish in Forfarshire, until the year 1853, when he accepted the chair of logic and metaphysics in the Queen's university at Belfast, Ireland. In 1850 he published a work on the "Method of Divine Government, Physical and Moral," which attracted much attention, and has been widely circulated both in Great Britain and America. An essay in the "North British Review" for Aug. 1851, on "Typical Forms," led to the publication in 1856, in conjunction with Dr. Dickie of the Queen's university, of "Typical Forms and Special Ends in Creation." His last published work is entitled "Intuitions of the Mind Inductively Investigated" (London and New York, 1860). In this, as in his previous publications, he diverges from the English school of Locke by maintaining the existence and essential importance of *a priori* conceptions and beliefs. They are the conditions of all empirical and concrete knowledge, and without them ethics, theology, and all the sciences are impossible. But by investigating these intuitions inductively, he claims that he departs from the method and avoids the results of the German transcendental school. Shunning the two extremes of sensationalism and idealism, it is his aim to grasp and unite the truth in each. In this spirit he treats the topics which lie at the foundation of knowledge and faith, as time, space, quantity, power, identity, causation, substance, being, the infinite, personality, freedom, and moral obligation.

MACORACKEN, a W. co. of Ky., separated from Ill. by the Ohio river; area, 232 sq. m.; pop. in 1850, 6,067, of whom 808 were slaves. The Tennessee river forms its N. E. boundary, and it is drained by the Clark river and its branches. The surface is level and the soil fer-

tile. The productions in 1850 were 174,976 bushels of maize, 18,883 of oats, 84,196 lbs. of tobacco, and 2,743 of wool. There were 8 grist mills, 3 saw mills, 1 tannery, 15 churches, and 648 pupils attending schools. Capital, Paducah.

MACCREA, JANE, an American woman, killed near Fort Edward, Washington co., N. Y., July 27, 1777. She was the daughter of a Scotch Presbyterian clergyman settled in New Jersey, after whose death she went to live with a brother on the Hudson river in the neighborhood of Fort Edward. At the commencement of the American revolution, being then a lovely young girl, she was betrothed to a young man named David Jones, who, adhering to the crown, went to Canada and was commissioned a lieutenant in a loyalist regiment. The approach of Burgoyne's army from the north in the summer of 1777 having spread consternation through the neighboring country, Miss McCrea's brother, who was a whig, prepared to remove to a place of safety, and sent for his sister, then on a visit to a Mrs. McNeil, residing at Fort Edward. Miss McCrea, supposing that her lover, with whom she probably corresponded, was in the invading army, lingered day after day at Mrs. McNeil's, with the hope of having an interview with him. The summons of her brother having at last become peremptory, she prepared reluctantly to embark in a bateau which was to convey several families down the Hudson out of reach of danger. On the morning fixed upon for her departure the house was suddenly surprised by a party of hostile Indians belonging to Burgoyne's army, and sent out by him to scour the country and harass the Americans; Mrs. McNeil and herself were made prisoners, and with other members of the family were hurried off to Burgoyne's camp. Mrs. McNeil arrived there in safety, and half an hour afterward another party of Indians came in with freshly severed scalps, on one of which she recognized the long glossy hair of Jane McCrea. The precise manner of her death has never been ascertained. The Indians stated that she was killed by a random shot from a detachment of Americans sent out in pursuit; whereupon her captors, being cut off from the reward offered for prisoners, secured her scalp and left her body by the wayside. Another story is that a quarrel arose among the Indians as to whose prize she was, in the midst of which one of them in a paroxysm of rage tomahawked her on the spot. The event caused a general feeling of horror through the country, and even in Europe, and Burke used the story with powerful effect in the British house of commons. An acrimonious correspondence ensued between Gates and Burgoyne; but the latter, who professed to be as much shocked as any one at the tragedy, denied peremptorily that the Indians were allowed to perpetrate such excesses with impunity. He immediately summoned a council of Indian chiefs, and demanded that the murderer should be given up; but it having been represented to him that his Indian allies

would in that event probably desert him, he was persuaded to let the offender go unpunished. The story has been related in various ways, and under the hands of successive narrators has been expanded into a pathetic love romance. It was said that Lieut. Jones hired the Indians to bring his mistress to the camp; and that they murdered her on the way to settle a dispute respecting the reward offered. This, however, he always denied. He retired to Canada soon after, and lived to be an old man, but was to the close of his life melancholy and taciturn. A blasted pine tree marks the spot where, tradition relates, Jane McCrea was killed, and her grave may be seen in a small cemetery near the ruins of Fort Edward.

MACORIE, THOMAS, D.D., a Scottish preacher and author, born in Dunse in Nov. 1772, died in Edinburgh, Aug. 5, 1835. He was educated at the university of Edinburgh, and in 1795 was licensed as a preacher by the Antiburgher associate presbytery of Kelso. In the controversies which agitated the Scottish church at the close of the last century he took an active part as an opponent of the voluntary principle in ecclesiastical polity, and was in consequence, with other ministers, deposed from office in 1806. This act led to the formation of the constitutional associate presbytery, of which he became a prominent member. His attention having been drawn during the progress of the controversy to the history of the Scottish reformation and the labors of the Scottish reformers, he undertook a "Life of John Knox," which after 4 years of preparation was published in 1811, and raised the author to a prominent place among contemporary writers. A 2d edition appeared in 1813, so greatly amplified and improved as to form almost a new work. His next literary undertaking was an elaborate review of Scott's "Old Mortality," published in the first 3 numbers of the "Christian Instructor" for 1817, in which he defended the Covenanters from the aspersions of the Scottish novelist. In 1819 appeared his "Life of Andrew Melville," giving an account of the formation of the Scottish kirk; in 1827 his "History of the Progress and Suppression of the Reformation in Italy;" and in 1829 "The Progress and Suppression of the Reformation in Spain in the Sixteenth Century." In the preparation of the last two works he mastered the Italian and Spanish languages, that he might consult original authorities. In 1829 he exerted himself against Roman Catholic emancipation, and several years later he took an active part in the "anti-patronage" controversy. At the time of his death he was engaged upon a "Life of Calvin." In addition to the works mentioned, he was the author of various collections of lectures and sermons, of a series of lives of Scottish divines of the period of the reformation contributed to the "Christian Magazine," and of other writings. A uniform edition of his work has been edited by his son, Prof. McOrrie (4 vols., Edinburgh, 1856).

MACCULLOCH, JOHN, a British physician and author, born in the island of Guernsey, Oct. 6, 1773, died in Penzance, Cornwall, Aug. 21, 1835. In 1790 he went to Edinburgh to prosecute his medical studies, and took his degree of M.D. at the age of 18. He subsequently entered the army as assistant surgeon, and in 1808 was appointed chemist to the board of ordnance. In 1807 he settled at Blackheath, and commenced practice as a physician, but in 1811 abandoned his profession, on being engaged by government to make various scientific surveys in Scotland. His most important publications are: "A Description of the Western Islands of Scotland" (2 vols. 8vo., London, 1819); "A Geological Classification of Rocks" (1821); "The Highlands and Western Islands of Scotland" (4 vols. 8vo., 1824); and "Proofs and Illustrations of the Attributes of God from the Facts and Laws of the Physical Universe" (3 vols. 8vo., 1837).

MACCULLOCH, JOHN RAMSAY, a Scottish political economist, born in Wigton in 1789. His first literary essays were contributed to "The Scotsman," an Edinburgh newspaper, of which he afterward became editor. In 1828 he was appointed to fill the chair of political economy in the university of London, and officiated in this capacity until 1832. He has been also, for many years, a regular contributor to the "Edinburgh Review," and has received from government for his services to literature a pension of £200, and the comptrollership of the stationery office. His principal works are: "Principles of Political Economy;" "Treatise on the Principles and Practical Influence of Taxation and the Funding System;" "Statistical Account of the British Empire;" "Dictionary, Practical, Theoretical, and Historical, of Commerce and Commercial Navigation;" and "Dictionary, Geographical, Statistical, and Historical, of the various Countries, Places, and principal Natural Objects in the World." All these works have passed through several editions.

MACDIARMID, JOHN, a Scottish author, born in Weem, Perthshire, in 1779, died in London, April 7, 1808. He was educated at the universities of Edinburgh and St. Andrew's, and in 1801 established himself in London, where he commenced his literary career as editor of the "St. James's Chronicle." Upon the breaking out of the war with France in 1802, he examined into the system of national defence adopted, and in 1805 published an elaborate work entitled "An Inquiry into the System of Military Defence of Great Britain" (2 vols. 8vo.), in which he undertook to show that a regular army in the event of an invasion is superior to volunteers. This work was followed by "An Inquiry into the Principles of Civil and Military Subordination" (8vo., 1804). Although emaciated and physically weakened by incessant devotion to literary labors, he entered with ardor upon a new plan of political biographies, and in 1807 produced his "Lives of British

Statesmen" (4to.), beginning with Sir Thomas More, a work characterized by Disraeli as perspicuous and unaffected in style, and as containing a variety of new and curious information on important subjects. Macdiarmid was prostrated by a paralytic stroke in Nov. 1807, and was prematurely carried off by a second attack.—JOHN, a Scottish miscellaneous author, born in Edinburgh about 1789, died in Dumfries, Nov. 12, 1852. He was educated at the university of Edinburgh, and afterward obtained a clerkship in a bank, devoting his leisure hours to literary pursuits. He became a contributor to the "Scots' Magazine," and in 1817 editor of the "Dumfries Courier." The most important of his works are: "History of Dumfries;" "Life of Cowper;" "Life of William Nicholson, the Galloway Poet;" "Sketches from Nature;" and "The Scrap Book."

MACDONALD, a S. W. co. of Mo., bordered on the S. by Ark. and on the W. by the Indian territory; area, 475 sq. m.; pop. in 1856, 8,583, of whom 51 were slaves. It is drained by various tributaries of the Neosho river. The surface is undulating and the soil fertile. The productions in 1850 were 145,659 bushels of Indian corn, 7,870 of oats, 7,839 of wheat, and 4,841 lbs. of wool. There were 5 churches, and 218 pupils attending public schools. Capital, Rutledge.

MACDONALD, ÉTIENNE JACQUES JOSEPH ALEXANDRE, duke of Taranto, a marshal of France, born in Sancerre, Nov. 17, 1765, died at his chateau near Guise, Sept. 24, 1840. He was descended from a Scottish family, which, following the fortunes of the Stuarts, emigrated to France, and there fixed their residence. Entering the army in 1784, he served in the campaigns of Holland and the Rhine in 1793-7, and for his participation in the passage of the Waal on the ice, under a heavy fire from the enemy in 1795, he was made a general of division. In 1798 he was appointed governor of the Papal States, and defeated a large Neapolitan army under Gen. Mack at Otricoli. The disasters sustained by the French generals in northern Italy in the beginning of 1799 having rendered the evacuation of Naples indispensable, Macdonald retreated toward Lucca; and being joined in June by several additional corps, he attacked the combined army of Austrians and Russians under Suwaroff on the banks of the Trebia on the 17th of the month. After an obstinate contest of 3 days, in which each side suffered a loss of 12,000 men, Macdonald, learning that the allies were expecting large reinforcements, retired by a circuitous march to Genoa. Compelled by ill health to return to Paris, he rendered important assistance to Napoleon on the 18th Brumaire, in return for which he was appointed to command the army of the Grisons. With this force in the winter of 1800-'1 he accomplished the celebrated passage of the Splügen, and was following up the enemy vigorously when the armistice of Treviso put an end to his movements. From 1801 to

1804 he was minister at the court of Denmark, but between the latter period and 1809 he held no command, the emperor being incensed with him for participating in the defence of Gen. Moreau. In 1809, however, to fill the chasm which death had made in the ranks of the French generals, he was again intrusted with a command, and rendered efficient services to Eugène Beauharnais in Italy. Transferred to the seat of war in Germany, he took part in the battle of Wagram, and by his heroic attack of the Austrian centre, the most important achievement in his military career, gained his marshal's baton, and the rank of duke of Taranto. On the day after the battle Napoleon effected a complete reconciliation with the new marshal, whom he thenceforth learned to trust and esteem. In 1810-'11 Macdonald served in Spain, but added little to his military or moral reputation; in the Russian campaign of 1812 he successfully conducted an independent line of operations toward Riga; and in the campaign of 1813 he fought at Lützen and Bautzen, was badly beaten by Blücher on the Katzbach, Aug. 26, and at Leipsic performed prodigies of valor, escaping from the catastrophe which overwhelmed the rear guard of the French army after the explosion of the bridge over the Elster, by swimming the river on horseback. He steadily adhered to the waning fortunes of Napoleon in the campaign of 1814, and participated in the negotiations ending in the emperor's abdication with a fidelity and consideration which the latter duly acknowledged. Having given in his adherence to the Bourbons, he declined all offers of command from Napoleon during the Hundred Days. He received many distinctions from succeeding sovereigns, but retired from public life during his latter years.

MACDONALD, FLORA, a heroic Scotch woman, born in the isle of South Uist, one of the Hebrides, in 1720, died March 4, 1790. She was the daughter of Macdonald of Milton, who belonged to the Macdonalds of Clanranald. Her father died when she was an infant, and her mother married Macdonald of Arnadale, in Skye, to which island Flora was removed. Of her early life little is known, and until her 26th year she had never been absent from the Hebrides. At that time she was of a fair complexion, of small figure, well proportioned, and of mild disposition and manner. In June, 1746, she left Arnadale, her usual residence, to visit her stepbrother at Milton, in South Uist. While there she made the acquaintance of Capt. O'Neil, one of the companions of Charles Edward Stuart, then on his wanderings after his defeat at Culloden. O'Neil proposed that she should take Charles with her to Skye, disguised as a woman. Though a confirmed Jacobite, she at first positively declined the proposition, the difficulties were so great, guards being posted at every ferry, all boats destroyed, vessels of war commanding the channel between Skye and Uist, and passports required from all travellers. An interview with the prince led

to a change of mind, and she entered warmly into the scheme. Her stepfather, who commanded one of the militia parties in the service of the government, gave her a passport for herself, for a male attendant, for "Betty Bourke, a stout Irish woman," whom Macdonald recommended to his wife as a good spinner, and for 8 others. After a variety of troubles, Flora, the prince, and one attendant sailed from Benbecula, June 28. They encountered serious dangers, but finally reached Skye, where they were assisted by Lady Macdonald, whose husband was then with the duke of Cumberland, commander of the royal forces. This lady consigned the prince and his attendant to the care of Macdonald of Kingsburgh, her husband's factor, who took them to his house, to which Flora also proceeded. Here the services of Flora to the prince ended, during all of which she had exhibited the utmost coolness and courage, without which the unfortunate adventurer must have fallen into the hands of his enemies, who thought they had provided against the possibility of his escape. A price, £80,000, was on his head. The next day the prince bade farewell to Flora, at Portree, in Skye. The part she had taken in this romantic affair soon became known, and she was arrested, and, after 5 month's detention on board vessels of war, was sent to London, where she suffered a mild imprisonment. She was discharged under the act of indemnity in 1747, not a question having been asked of her. Frederic, prince of Wales, is said to have interceded in her behalf, and to have visited her. Placed in the family of Lady Primrose, a noted Jacobite, she was an object of much interest to society. Returning to Scotland, in 1750 she married Macdonald the younger of Kingsburgh. She was visited by Dr. Johnson in 1778. The family emigrated to North Carolina in 1775, and settled in Fayetteville; but siding with the loyalists, they experienced adventures, and met with losses. Mrs. Macdonald embarked alone for Europe, and actually took part in an engagement which the vessel she was in fought with a French vessel, and had her arm broken by a fall. It was not until some time after her return to Scotland that she was joined by her husband. She was the mother of several children, 4 of them being sons, all of whom entered the British service. On her death her body was wrapped in one of the sheets of the bed in which Charles Edward slept on the night he passed at Kingsburgh, the other having been used by his hostess for a similar purpose. This sheet Mrs. Macdonald had carried with her to America, and kept throughout all her wanderings both at home and abroad.

MACDONALD, JAMES, M.D., an American physician, born at White Plains, N. Y., July 18, 1808, died at Flushing, L. I., May 5, 1849. He was graduated M.D. at the college of physicians and surgeons, New York, in March, 1825, and soon afterward was appointed resident physician of the Bloomingdale lunatic asylum. In 1830 he resigned this post, intending to enter

upon general practice. In the spring of 1831 the governors of the New York hospital, of which the Bloomingdale asylum is a branch, proposed to send him abroad to visit the insane hospitals of Europe. He accepted their proposition, on condition that on his return he should have entire charge of the asylum for 5 years, to effect such reforms as might be desirable. In 1837 he resigned his connection with the asylum, and was immediately chosen one of the visiting physicians of the New York hospital, which post he held for 4 years, though interrupted by a visit to Europe in 1839. In 1841 he opened a private institution for the insane, first at Murray Hill, and subsequently at Flushing. In 1842 he was offered the superintendency of the New York state lunatic asylum at Utica, but declined it. The same year he began a course of lectures on mental diseases at the college of physicians and surgeons, probably the first ever delivered in the United States. His published works are: "An Essay on the Construction and Management of Insane Hospitals;" "A Review of Ferrers on Insanity;" "Statistics of the Bloomingdale Asylum" (1839); "A Letter to the Trustees of the New York State Lunatic Asylum, proposing a Plan for organizing that Asylum" (1842); "A Dissertation on Puerperal Insanity;" "Reports on the Condition of the Blackwell's Island Asylum." He was a frequent contributor to the "American Journal of Insanity."

MACDONOUGH, a W. co. of Ill., watered by Crooked creek and its branches; area, 576 sq. m.; pop. in 1855, 12,886. The surface is mostly prairie and the soil productive. The productions in 1850 were 100,102 bushels of wheat, 550,768 of Indian corn, 76,689 of oats, and 78,481 lbs. of wool. There were 6 grist mills, 9 saw mills, 13 churches, and 1,879 pupils attending public schools. The Chicago, Burlington, and Quincy railroad intersects the county, passing through Macomb, the capital.

MACDONOUGH, THOMAS, a commodore in the U. S. navy, born in New Castle co., Del., in Dec. 1788, died at sea, Nov. 18, 1815. He entered the navy as a midshipman in Feb. 1800, and in 1808 was attached to the frigate Philadelphia, Capt. William Bainbridge, one of the squadron employed against Tripoli, under the command of Com. Edward Preble. On Aug. 26, 1808, the Philadelphia captured off Cape de Gatta, on the coast of Spain, the Moorish frigate Meshboa, and McDonough escaped the captivity which subsequently befell the officers and crew of the Philadelphia by being left at Gibraltar with her prize. He afterward served in the schooner Enterprise, Lieut. Comt. Stephen Decatur, participating in the various attacks made in 1804 upon the city and batteries of Tripoli, and was one of the party under the command of Decatur which recaptured and destroyed the Philadelphia on the night of Feb. 16, 1804. In Feb. 1807, he was promoted to the rank of lieutenant, and in July, 1813, to that of master commandant. In 1814 he command-

ed a squadron on Lake Champlain, and on Sept. 8 of that year gained a very important victory over a British squadron commanded by Commodore George Downie. (See CHAMPLAIN, LAKE.) For his distinguished services on this occasion, McDonough was promoted to the rank of captain, and received a gold medal from congress. Numerous civic honors were also bestowed upon him by different cities and towns, and the legislature of Vermont presented him with an estate upon Cumberland Head, which overlooked the scene of the engagement. After the war he performed much active service, and died on his passage home from the command of the squadron in the Mediterranean.

MACDOUGALL, ALEXANDER, an American general, born in Scotland about 1750, died in New York in June, 1786. His father emigrated to New York about 1755, and followed the occupation of a milkman, in which he was assisted by his son. Subsequently the latter became a printer, and in 1770 was imprisoned for a libel on the colonial government. At the outbreak of the revolution, being known as a zealous and active whig, he joined the army, and in 1776 was appointed a brigadier-general. In the succeeding year he became a major-general. Gen. McDougall commanded in the action near White Plains in 1777, and also participated in the battle of Germantown. In 1781 he was elected a delegate to the continental congress from New York, and he was subsequently a member of the New York state senate.

MACDOWELL, a W. co. of N. C.; area, 550 sq. m.; pop. in 1850, 6,246, of whom 1,262 were slaves. The Blue Ridge is on its W. boundary, some of the summits of which are estimated to be over 6,000 feet high. The Catawba rises in these mountains. In the valleys the soil is generally fertile. The productions in 1850 were 5,600 bushels of wheat, 255,262 of Indian corn, and 4,977 lbs. of tobacco. There were 2 grist mills, 2 tanneries, 17 churches, and 775 pupils attending schools. Capital, Marion.

MACDOWELL, PATRICK, a British sculptor, born in Belfast, Ireland, Aug. 12, 1799. In his youth he was apprenticed to a coachmaker in London, who died when Macdowell was about 18 years old. He was then admitted to the studio of a French sculptor named Chenu, where he soon developed a taste for modelling. A design for a public monument to Major Cartwright, the advocate of parliamentary reform, first brought him into notice; but a figure of "A Girl Reading," of which he executed a duplicate for the earl of Ellesmere, decided his reputation. Among his chief works are: "Love Triumphant," a large group executed for Mr. William Beaumont, "A Girl at Prayer," "Cupid," "Early Sorrow," "Psyche," "The Death of Virginia," and "Eve." Since 1846 he has been a royal academicien.

MACDUFFIE, GEORGE, an American statesman, born in Columbia co., Ga., about 1788, died in Sumter district, S. C., March 11, 1851. Of humble parentage, he began life as clerk in

a mercantile establishment in Augusta, Ga., where his passion for books attracted the regards of William Calhoun, a brother of his employer, who provided for his education. He was graduated at the South Carolina college in 1818, was admitted to the bar in 1814, and soon established himself in practice in Edgefield, S. C., where he made rapid progress in his profession. In 1818 he was elected to the South Carolina legislature from Edgefield district, and distinguished himself as an eloquent speaker and an able political writer. A political controversy in which he was involved with Col. William Cummings of Georgia led to more than one duel, in one of which he was wounded with a ball, which, being never extracted, affected his health through life. His writings at this time were diametrically opposed to the view of the relations between the states and the confederacy which he subsequently espoused, as he then maintained the principle of consolidation against that of state rights. His various papers on this subject, produced in the controversy with Col. Cummings, were collected by Gen. James Hamilton in a series of pamphlets, entitled "The Crisis." In 1821 he became a member of congress. In Dec. 1822, he introduced a motion for a select committee to inquire into the expediency of recommending to the states a change in the constitution, so as to establish uniformity in the mode of electing the members of the house of representatives, and also a change in respect to the mode of choosing electors for president and vice-president. As chairman of this committee, he made an elaborate report concluding with a resolution. In Jan. 1825, he opposed internal improvements in the states by congress. He was prominent in the debates on the rules proposed to be observed by the house in the election of president of the United States, the discussion deriving most of its interest from the election then pending before that body, in which the candidates were Adams, Crawford, and Jackson. In the 19th congress he argued against the proposed congress of Panama, a favorite measure of President Adams. He also brought up again the subject of amendments to the constitution as to the election of president and vice-president, his main object being to prevent the choice from ever falling into the house of representatives. As chairman of the committee of ways and means, he engaged in the discussion concerning the bank of the United States, and, though now a champion of state rights, he endeavored to maintain this institution. He was a frequent assailant of the protective tariff, and was engaged in the debates on most of the important questions before the house, as the naval appropriations, West Point, emigration of the Indians, office of major-general, pay of members, topographical surveys, culture of silk, inland ports of entry, the Turkish mission, South Carolina claims, minimum duties, and the conduct and rechartering of the bank. In Dec. 1830, he opened the case in a speech of great power for the prosecution in the trial of

Judge Peck, on an impeachment for which the senate had been resolved into a court. Though he had been originally an ardent and efficient supporter of President Jackson, yet his administration had not satisfied the state rights men of the South, and Mr. McDuffie became, like Mr. Calhoun and the politicians of South Carolina generally, his adversary. The measures of the president also in respect to the bank of the United States contributed to make him an uncompromising opponent. In South Carolina, the hostility to the protective tariff policy, which seemed about to be fastened on the country, had reached its climax. The tenor of the argument in that state, maintained by no one more frequently and eloquently than by Mr. McDuffie, was, that by this insidious and indirect method of collecting revenue, by the protection afforded to northern manufactures, by the appropriations for public works falsely pretended to be for the general welfare, and by the combinations of the large commercial and manufacturing against the small agricultural states, the South was annually deprived of millions, to the advantage of favorite peculiar systems and special sections. It was also claimed that Gen. Jackson, though elected as the champion of the South, was at best a doubtful friend. The result was a political excitement of such intensity that the two domestic parties, the state rights and the union, were on the verge of civil war, while the state itself was making preparations to defy the federal government, and to carry its argument into practice by attempting nullification. The sovereignty of the states as principals, the subordination of the federal government as an agency, lay at the foundation of its reasoning. The Kentucky resolutions, drawn up by Mr. Jefferson, declared: "That the several states who framed that instrument [the constitution], being sovereign and independent, have the unquestionable right to judge of the infraction; and that a nullification, by these sovereignties, of all unauthorized acts, done under color of that instrument, is the rightful remedy." In 1820, and again in 1825, the legislature of South Carolina protested against the protective tariff, and in 1827 gave to the state representatives in congress instructions of the like tenor. In 1828 it entered a protest and resolutions against the right of congress to impose protective duties on imports. More resolutions, addressed to other states, followed in Dec. 1828, and in 1830 the legislature passed resolutions of like import. In 1831 the same body reviewed a letter from President Jackson to the union party of South Carolina, and denounced it as an impertinence and unauthorized interference. In all these proceedings Mr. McDuffie concurred, and he illustrated and vehemently defended them in congress. In 1834 a convention of the people of South Carolina was assembled in Columbia for the consideration of the subject. An elaborate report from a committee was followed by "an ordinance to nullify certain acts of the congress of

the United States purporting to be laws, laying duties, &c., on foreign commodities." This ordinance declared such acts to be null and void, and forbade that they should be enforced within the limits of the state. The convention also published two remarkable addresses, one to the people of South Carolina and the other to the people of the United States, the latter of which was written by Mr. McDuffie. In 1834 he left congress, after making a vehement speech against the administration, and was in the same year elected governor of South Carolina. The college of the state was reorganized by his efforts. At the expiration of his term of office he retired to private life, but in 1843 was elected to the U. S. senate. The failure of his strength obliged him to resign this position, and to terminate his public career in 1846. Probably no one of his colleagues in congress treated so great a variety of difficult subjects more thoroughly, ably, or with more effective eloquence. He did not, like Mr. Calhoun, regard nullification as a constitutional measure, but maintained and justified it as revolutionary, and he was never satisfied with the final settlement of the question by what is called the "Clay compromise." He was one of the most successful planters in the state, and has left an admirable oration delivered before the state agricultural society. For many years before his death he was commonly called Gen. McDuffie, having been a major-general in the state militia.

MAOE. See NUTMEG.

MACEDONIA, or MACEDON (the latter name being used, exclusively by English writers, to designate the state or empire, the former designating the land or province), an ancient country of S. E. Europe, N. of Greece, the principal parts of which now belong to the Turkish province or district of Filiba Vilayeti or Makdonia in western Roumelia, which has an area of about 15,000 sq. m., and a population of about 750,000, consisting of Turks, Wallachians, Albanians, Greeks, and Jews. Parts of this province are renowned in modern times for fertility, producing among others abundant and excellent crops of wheat, cotton, tobacco, wine, oil, and fruits. The most ancient name of the country among the Greeks seems to have been Emathia, and subsequently Macetia or Maxetia, the people being called Macetæ. The name Macedonians is first applied to them by Herodotus. They were probably of Illyrian race, and seem originally to have lived in the S. W. part of the country, in the vicinity of Mt. Pindus, whence they spread northeastward, mingling with Thracian as well as Grecian settlers. The reigning house of Macedon is believed to have belonged to the descendants of the latter, or to a Hellenized tribe, and their influence gradually extended the use of the Greek language; but the people were never regarded as genuine Hellenes by their neighbors of the Grecian peninsula and the islands. The boundaries of Macedonia varied in the different periods of its history. In the time of Herodotus, or at least ac-

cording to him, it consisted only of the district extending from the confines of Thessaly to the river Lydias. In a subsequent period it extended E. as far as the Strymon (now Struma), which separated it from Thrace, being bounded N. by Pæonia, W. by Illyria, and S. by Olympus and the Cambunian mountains, which separated it from Thessaly. This may be called Macedonia proper. Philip, the father of Alexander the Great, extended the limits of his kingdom by the conquest of Pæonia on the N., of the Thracian district between the Strymon and the Nestus (Karasu) on the E. (afterward Macedonia Adjuncta), of the peninsula of Chalcidice on the S. E., and of an adjoining district of Illyria on the W. Thus his kingdom was bounded N. by the Scardus, Scomius, and Orbelus ranges, separating it from Mœsia and Dardania, E. by the Rhodope range and Nestus river, separating it from Thrace, S. E. by the Ægean sea (archipelago), S. by the Olympus and the Cambunian mountains, and W. by the northern prolongation of the Pindus and the river Drilo (Drin). It comprised the districts of Pæonia, Pelagonia, Lyncestis, Orestis, Pieria, Emathia, Chalcidice, Bisaltia, and others. Beside the encircling mountain ranges, there were some less important chains in the interior, divided by fertile valleys. Of the rivers, which mostly flow in a S. E. or E. direction into the Ægean, the most important were the Nestus, the Strymon, which flows into the gulf of its name, and the Axios (Vardar), which received the waters of the Lydias, and like the Haliacmon (Vistritza) flows into the Thermaic gulf (gulf of Saloniki). The southern part of Chalcidice, washed by the Thermaic, Toronaic, Singitic, and Strymonic gulfs, was divided into the 3 minor peninsulas of Pallene, Sithonia, and Acte, the last of which terminated in Mt. Athos, and was said or fabled to have been cut through by Xerxes on his invasion of Greece. Among the cities were: *Ægæ*, or *Edessa*, the residence of the early kings; *Pella*, that of Philip and his son Alexander; *Thessalonica* (Saloniki, now the largest town), that of Cassander, at the head of the Thermaic gulf; *Olynthus*, formerly one of the most powerful cities of Thrace, besieged, taken, and destroyed by Philip; *Potidæa*, a colony of Corinth, conquered by Athens, and subsequently by Philip; *Chalcis*, a colony of the town of

the same name in Eubœa; *Amphipolis*, a colony of Athens, near the mouth of the Strymon; *Philippi*, founded by Philip, and renowned for the battle of its name (42 B. C.), which terminated with the victory of the triumvirs and the death of Brutus and Cassius; *Stagira*, the birth-place of Aristotle; *Pydna*, where Perseus was defeated by the Romans under *Æmilius Paulus* (168 B. C.); *Dium*, *Pelagonia*, *Berœa*, *Methone*, *Stobi*, and *Acanthus*. Under the Romans the province of Macedonia included large portions of the neighboring western and southern countries, extending from the Ægean to the Adriatic, and being bounded S. by the province of Achaia, which included the largest part of Greece.—Macedon, having been founded by *Perdiccas I.*, first appeared in history under *Amyn-tas*, a contemporary of *Darius*, the first Persian invader of Greece (about 500 B. C.), was made powerful and the virtual mistress of Greece by Philip (359-336), son of *Amyntas II.*, and the greatest empire of the period by the conquests of his son Alexander (336-23), decayed under the successors of the latter, was broken by the two victories of the Romans at *Cynoscephalæ* (197) and *Pydna* (168), and made a Roman province after various insurrections and the final defeat of the Achæans in 146. Its history is closely connected with that of Greece, and we refer our readers to the history of that country (vol. viii. p. 451 *et seq.*), as well as to the lives of the most important Macedonian monarchs.

MACFERRIN, JOHN BERRY, D.D., an American clergyman, born in Rutherford co., Tenn., June 15, 1807. His grandfather *McFerrin* was a soldier in the American revolutionary war, and his father, the Rev. James *McFerrin*, was an officer in the war of 1812. He was educated in the common schools of Tennessee and N. Alabama, became a minister, and joined the Tennessee conference of the Methodist Episcopal church in 1826. He was for two years a missionary to the Cherokee Indians, and was editor of the "South-Western Christian Advocate," at Nashville, from 1840 till May, 1858, when he was made book agent of the M. E. church, South. He was a member of the Louisville convention in 1845 which organized the M. E. church, South, and assisted in compiling the history of that organization.



